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DISEASES OF THE SKIN

A PRACTICAL AND THEORETICAL

TREATISE

ON THE

DISEASES OF THE

GEORGE NAYLER, F.R.C.S.

LECTURER TO THE HOSPITAL FOR THE
STANDISH STREET, LONDON

SECOND EDITION


LONDON
SMITH, ELDER, & CO., 15, WILKINSON STREET, LONDON

1871

A PRACTICAL AND THEORETICAL
TREATISE
ON THE
DISEASES OF THE SKIN

BY
GEORGE NAYLER, F.R.C.S.

SURGEON TO THE HOSPITAL FOR DISEASES OF THE SKIN
STAMFORD STREET, BLACKFRIARS



SECOND EDITION

LONDON
SMITH, ELDER, & CO., 15 WATERLOO PLACE
1874

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TO THE MEMORY
OF THE LATE
JAMES STARTIN, F.R.C.S.

SENIOR SURGEON TO THE HOSPITAL FOR DISEASES OF THE SKIN, BLACKFRIARS

AS A SLIGHT TRIBUTE TO
HIS EMINENT PROFESSIONAL ATTAINMENTS
AND IN REMEMBRANCE OF
MANY ACTS OF KINDNESS AS A TEACHER AND FRIEND

This Work is gratefully inscribed

BY THE AUTHOR

PREFACE

TO

THE SECOND EDITION.



IF any illustration were wanting of the difficulty of correctly classifying Diseases of the Skin, it would be found in the diversity which has, hitherto, characterised all attempts of the kind. On this subject scarcely two authors are agreed; each has followed his own plan, which, if not more elaborate, is at least at variance with that of any previous writer on the same topic. Of the different systems which have been proposed, there are three which deserve our attention, viz. the artificial, the regional, and the natural. The first, if not actually due to Willan, owes to him its development, and to a certain extent its completion. Before his time skin diseases received but a scanty measure of acknowledgment, either in classification or description. Indeed, the system which he introduced is still followed, both at home and abroad. I confess that I am acquainted with none, which in utility can supply its place. An objection has been urged against it, that it gives us an idea of a disease from a single point of

view; but this is more apparent than real, and the error of Willan, in classing together two such incongruous complaints as scabies and variola, is not likely to be repeated at the present day.

The *regional* system of classification, grounded on a distribution of skin diseases according to their locality, was not likely to find favour when these became better understood. Although commenced by no less an authority than Alibert, he was soon obliged to abandon it. Admitting the advantage of the situation of a cutaneous eruption, as assisting us often to arrive at a true diagnosis, its value is not so great that we can always rely upon it; much less can we found a system, which should take it exclusively for a base.

For the third, or *natural* system, which claims for its foundation the anatomy of the skin, we are indebted to Mr. Erasmus Wilson. The several divisions and subdivisions which he has instituted are no doubt in the main correct. At the same time it may be a question, whether this plan is not liable to degenerate into an excess of detail, and lead to distinctions, which, while they scarcely allow of an accurate appreciation, are yet hardly avoided. Another point open to inquiry, and which meets us at the threshold of all classification of skin diseases, is the obscurity which envelopes their pathology; and until this point is satisfactorily cleared, no system of classification can be pronounced complete.

In this edition, the squamous, papular, vesicular, and pustular affections are comprised in as many

groups; pityriasis is supplemented by pityriasis versicolor, although distinct, in all that concerns its more obvious as well as microscopical appearances. Herpes circinatus and tinea tonsdens are regarded as identical, and classified together under the general head of herpes. Other complaints as, for example, alopecia and elephantiasis, which have their own proper characters, are separately arranged. In the present volume, a considerable addition has been made to those rare diseases, ichthyosis and lupus, especially its erythematous variety. No pains have been spared to render them, as far as possible, complete. Besides a new chapter on congenital syphilis, the author has added two, by the late Mr. Startin, which he hopes will prove of interest; one on feigned diseases of the skin, and the other on diseases of the skin following vaccination, many of the cases therein reported having passed under his own notice.

The author trusts he may be allowed to pay a passing tribute to one who, in the course of his long career, has done so much for the advancement of diseases relating to the skin. Associated with Mr. Startin in his private practice during the last few years of his life, he can bear testimony to the rare powers of diagnosis he possessed, and the success which marked his treatment. To him we owe, among other contributions, the introduction of glycerine, and the use of collodion as remedial agents in cutaneous affections. The eruption, which in a subsequent chapter is designated porrigo, first received from Mr. Startin its true acceptance and meaning.

To Dr. Maddox his thanks are especially due, both for the assistance and suggestions he has always kindly rendered him in the delineation of disease. To Messrs. Tuffen and W. West, for their share in preparing the illustrations, the author begs to accord his best acknowledgments.

There are probably few practitioners who do not experience, at the commencement of their career, more or less difficulty in the treatment of cutaneous diseases, which form no inconsiderable share of public or private practice. The limited time at the disposal of a medical student, seldom permits him to pay much attention to this class of complaints, which at a later period he may be called upon to encounter, and the issue of which rests entirely with himself. In many cases they present great difficulty in diagnosis, and the treatment they receive is often unsatisfactory and uncertain. In thus attempting to supply a work which has clinical study essentially for its basis, the author has endeavoured to portray disease in the actual form, in which it is found to occur in practice. As such it is offered as a guide to the student, divested, as far as can be, of technicalities.

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Fig. 1

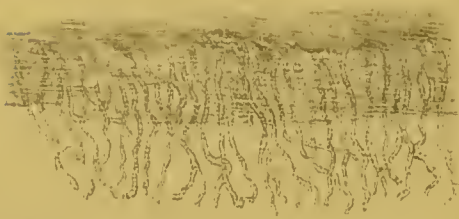


Fig. 2

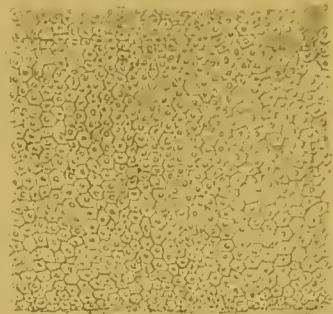


Fig. 4



Fig. 3

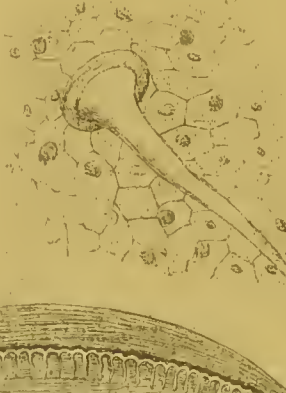


Fig. 7

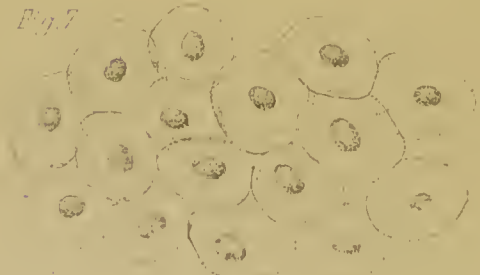


Fig. 8

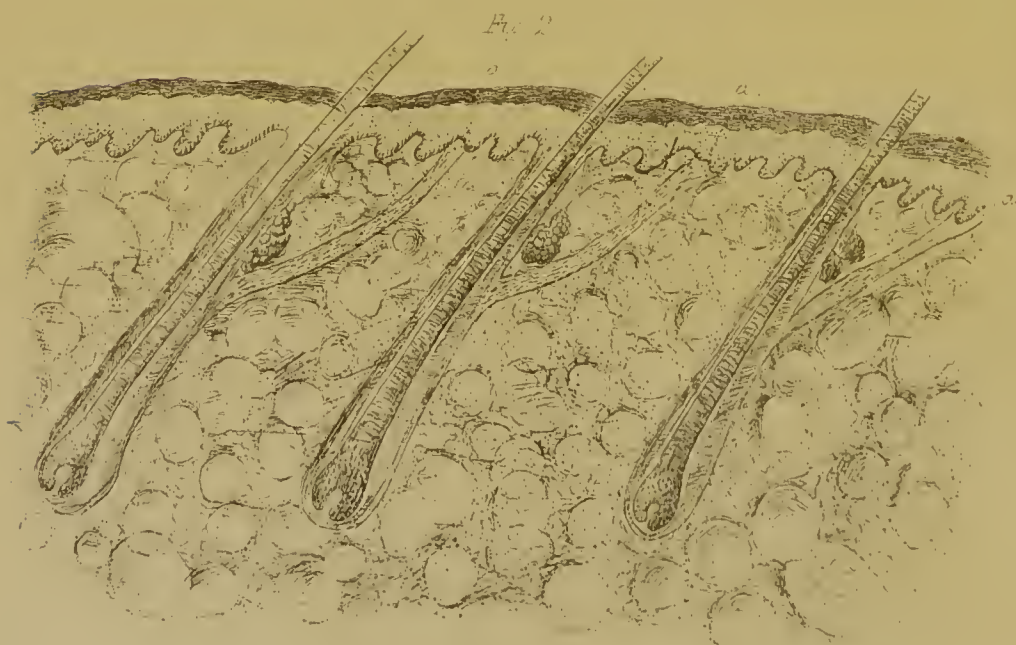


DESCRIPTION OF PLATE I.

ILLUSTRATING THE STRUCTURE OF SKIN (IN PART) AND OF NAIL.

- Fig. 1. Sudoriparous tubes of foetus of $5\frac{1}{2}$ months, seen with a low power of the microscope.
- Fig. 2. Portion of the same, highly magnified, to show the minute structure. (The specimen is H *a*, 142, R.C.S.)
- Fig. 3. Sudoriparous duct drawn out by the action of a blister, with nucleated cells of a portion of the skin to which it is attached.
- Fig. 4. Vertical section of papillæ of the skin, showing termination of a nerve and two blood vessels. (Adapted from Kölliker.)
- Fig. 5. Diagram to illustrate the mode of attachment of the nail to the skin, and relation of the parts.
a, nail; *b*, its bed, elevated into ridges; *cc*, lateral cutaneous folds.
- Fig. 6. Enlarged view of a portion of the same; similar parts are indicated by corresponding letters. (Preparation H *b*, 4, R.C.S.)
- Fig. 7. Large nucleated cells, forming the structure of the nail, obtained by boiling in caustic potash.
- Fig. 8. The same, seen edgewise.

Figures 7 and 8 are enlarged 300 diameters.



DESCRIPTION OF PLATE II.

ILLUSTRATING THE STRUCTURE, ETC., OF THE SKIN.

Fig 1. Sudoriparous glands and hair follicles. (Preparation H *a*, 110, R.C.S.)

Fig. 2. Section of skin of the scalp, principally intended to show the involuntary muscles attached to the hairs.

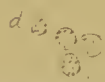
Magnified 25 diameters.

a, a, a, indicate the muscles, which are oblique in direction, and attached to the hair follicle, immediately below the sebaceous glands.



Fig =

P



x 15

x 40

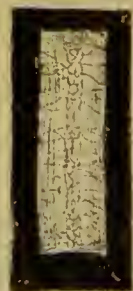
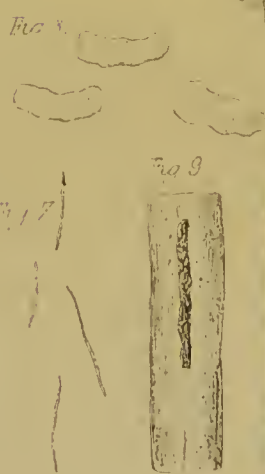


Fig 6

Fig 8

Fig 9

Fig 7



DESCRIPTION OF PLATE III.

ILLUSTRATING THE STRUCTURE OF HAIR.

Fig. 1. Hair from one of the European dark races. (Preparation H c, 114, R.C.S.)

Fig. 2. Hair from an Albino. (Preparation H c, 118, R.C.S.)

Fig. 3. Transverse sections of human hair, to show the great diversities of contour. (Preparation H c, 116, R.C.S.)

Fig. 4. Transverse sections of porcupine quill. (Preparation H c, 66, R.C.S.)

A magnified about 15, B about 40 diameters.

Fig. 5. Portion of human hair, boiled in solution of caustic potash.
a, cuticle; *b*, cortical substance, with nuclei; *c*, cells of medullary substance; *d*, some of the latter isolated (Adapted from Kölliker.)

Fig. 6. Cells of cortical substance isolated by the action of sulphuric acid; one seen edgewise. In the figure given of favus these are also well seen.

Fig. 7. Four of the slender elongated nuclei from these cells after maceration in caustic potash.

Fig. 8. Cells of cuticle obtained by the use of acid.

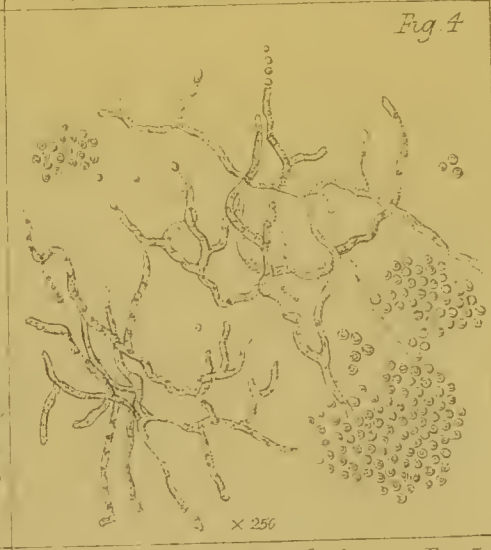
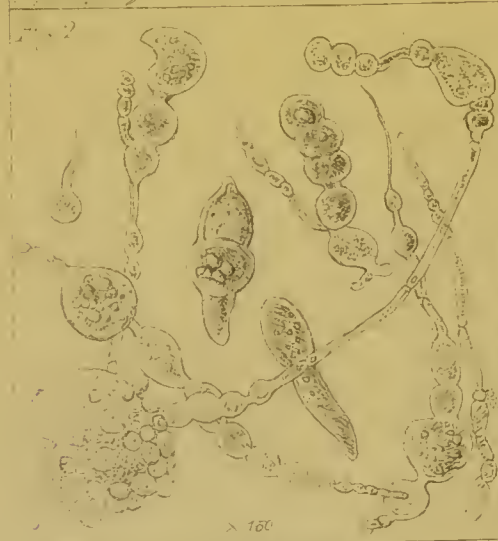
The last four figures magnified 300 diameters.

Fig. 9. Portion of a hair from the beard; the darkness of the centre proved by partial penetration of fluid to be due to the presence of air.

Fig. 10. A hair from the head, viewed as an opaque object, proving, by different means, that the ordinary dark centre does not depend on the presence of pigment.

These two figures magnified 200 diameters.

Vegetable Parasites of the Skin.



DESCRIPTION OF PLATE IV.

ILLUSTRATING VEGETABLE SKIN PARASITES.

Fig. 1. Achorion Schönleinii from favus crust.

a. Portion of a crust softened, and examined with glycerine and water; its composition is principally mycelium, sporules, and exudation matter, with here and there an epithelial scale.

b. Detached sporules and short filaments.

c. Small hair found embedded in the same piece of favus crust, and carefully removed by first softening the parts and then gently tearing away with needles; sporules are seen to be closely attached to it, but its integrity is not yet visibly affected.

d. Another small hair from this portion of crust, which is seen to be much split, and rapidly deteriorating.

Magnified 150 diameters.

Fig. 2. Achorion Schönleinii in an unusual condition. Drawn by Dr. Maddox.

Magnified 400 diameters.

Fig. 3. Portion of scurf removed from a patient with pityriasis versicolor, and examined in glycerine after treatment with acetic acid. By this method the structures are rendered very distinct, and clearly show mycelium ramifying in every direction, with here and there masses of embedded sporules in a 'resting' condition.

Fig. 4. Portion of the cryptogame, represented alone.

Fig. 5. Transverse section of skin, showing the cryptogame passing down a hair follicle, projecting slightly externally, where sporules are formed; and internally penetrating deeply towards the corium, and sending off branches right and left.

The above three figures magnified 250 diameters.

Fig. 6. a. Outline of hair in a marked example of tinea tonsdens, showing the distortion produced by the disease.

Magnified 50 diameters.

b. Portion of a hair in the same disease, entirely filled with sporules, which project from the broken-off end.

Magnified 150 diameters.



Fig 1



Fig 2



Fig 3

Fig 4



Fig 7



Fig 8



Fig 9



Fig 6



Fig 5



Fig 10

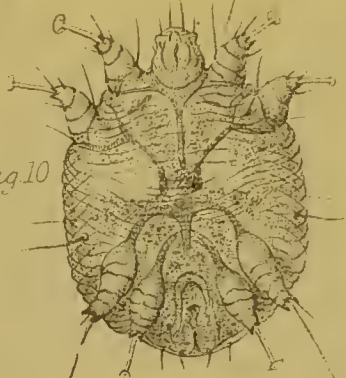


Fig 11

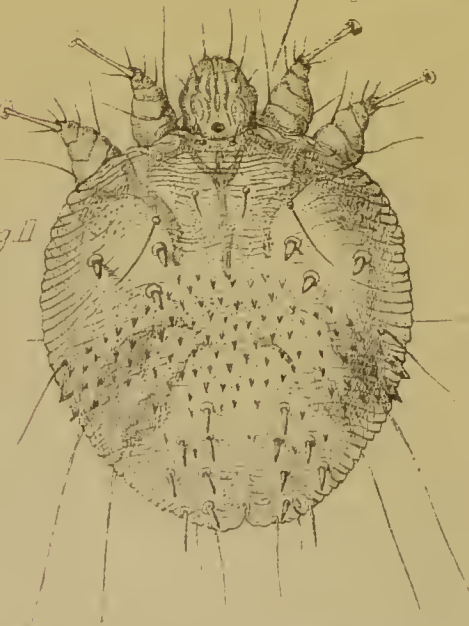
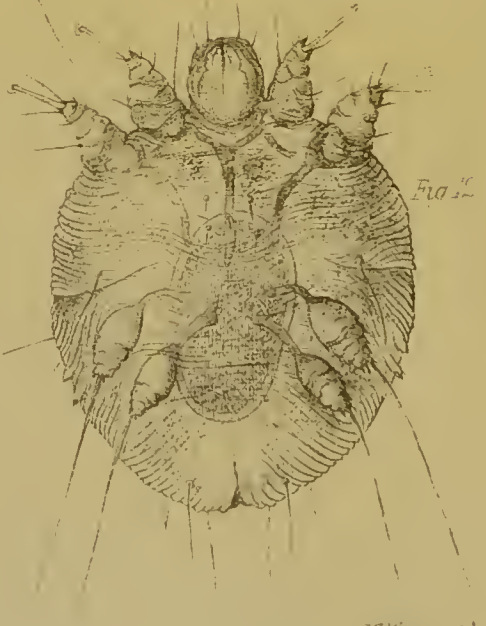


Fig 12



DESCRIPTION OF PLATE V.

ILLUSTRATING THE STRUCTURE AND DEVELOPMENT OF ACARUS
FOLLICULORUM AND ACARUS SCABIEI.

- Fig. 1. Ovum of acarus folliculorum, in an advanced stage.
- Fig. 2. Young individual shortly after its escape from the ovum ;
ventral aspect.
- Fig. 3. Another young specimen, further advanced ; dorsal view.
- Fig. 4. Small but full-grown individual ; ventral aspect.
- Fig. 5. Fully matured specimen ; dorsal view.
- Fig. 6. Under surface of anterior portion of body, very highly magnified.
- Fig. 7. Ovum of acarus scabiei, in early stage (rat).
- Fig. 8. Another ovum of same, in which the rudiments of limbs
may be distinctly traced (rat).
- Fig. 9. Young individual, recently escaped (rat).
- Fig. 10. Mature male ; ventral aspect (human).
- Figs. 11, 12, represent mature females ; the former showing the
dorsal, the latter the ventral aspect, respectively (human).

*All the figures magnified 150 diameters, except Fig. 6, which is enlarged
450 diameters.*

Errata.

Page 28, 2nd line from bottom, *for of read or.*

„ 39, 2nd „ „ top, *for larger read large.*

„ 211, 8th „ „ „ *for Gilbert read Gibert.*

„ 281, 11th „ „ bottom, *for gutatta read psoriasis guttata.*

DISEASES OF THE SKIN.

CHAPTER I.

ANATOMY OF THE SKIN.

THE skin constitutes the great external or tegumentary covering of the body, and is very similar in structure to the mucous membrane, with which it is continuous at certain outlets. It serves important functions in the economy, as a secreting, an absorbing, as well as a tactile organ. The most constant of all the tissues, it is present throughout the varied scale of the animal creation, where, in a modified form, it is often subservient to the purposes of protection and defence.

Anatomy
of the
skin.

We may consider the skin as composed of an internal layer or cutis, composed chiefly of connective tissue, and rich in blood-vessels and nerves; and of an external coat or layer, consisting only of cells—the cuticle. Besides these, it contains numerous glands and horny appendages.

The *cuticle*, at its upper part, is composed of an irregular distribution of flattened cells, heaped one upon another, and separated by no definite substance. The lower cells are nearly all destitute of walls, the nuclei only remaining, and apparent by their reddish hue. Unprovided with nervous elements or vessels of any kind, it is dependent for its nutrition on the vascular

Cuticle.

A

B

supply beneath of the cutis. The addition of new cells in room of the old, which, as they reach the surface, are disintegrated or shed, takes place from below. The nuclei, as they ascend, are soon enveloped in a cell wall, and with the growth of the latter, a perfect nucleated cell is soon produced. With its approach to the surface, the cell loses its transparency and softness, acquires a hard horny state, and is no longer amenable to the same reagents as before. The thickness of the cuticle is proportionate to its requirements, and in this respect it varies from the sixth to the twenty-fifth of an inch. On the inside of the limbs, the face, and the generative organs, it is exceedingly thin. On the heel, where of necessity it is most needed, or on the palms of the hands, accustomed to much manual labour, the thickness is unusually great. Wherever developed, its object is to protect the subjacent papillæ, over which it is moulded with the most perfect accuracy.

Chemical
analysis of
the cuticle.

The following analysis of the skin, consisting chiefly of thick cuticle, which I obtained principally from the palm of the hand and the sole of the foot, was made by Dr. Marcet. It contained in every 100 parts—

Fats	11 32
Other organic substances	87·05
Mineral substances . . .	1·63
	<hr/> 100·00

‘The amount of mineral substances was too small to admit of a complete qualitative analysis: they consisted mainly of earthy compounds.’

In the dark races of mankind the colour of the skin is caused by a quantity of black pigment, deposited in the lower cells of the epidermis. In examining a portion of the recent skin of a negro a short while ago, I

found a dark beaded line just above the situation of the so-called basement membrane, and the upper cells of the epidermis scarcely differing from those observed in a fair skin. Some of the masses of fat in the subcutaneous tissue were also of a notably dark hue.

The *cutis*, or true skin, as it is termed, is a network of fibrous material, the close texture of which is most evident in its superficial layers. Inferiorly it passes by insensible gradations into, or becomes blended with, the subcutaneous tissue, with which it is identical in structure. In this, its lower part, it presents various-sized openings, in which are lodged pellets of fat; these are at once recognised by their lighter colour and transparency. The relative amount of white fibres in the cutis is determined by the degree of resistance to which that part of the skin is liable, while the supply of the yellow fibrous element is regulated by the elasticity demanded; hence the excess of the one in such a situation as the sole, and the increase of the other in the axilla, or the integument over a joint. Not only is the skin thus rendered elastic, but it is also highly contractile. This latter property it derives from minute muscles of the involuntary kind, whose vermiform action is occasionally witnessed in the scrotum when exposed to cold. The existence of these muscles, first demonstrated by Kölliker, has since been proved in every part of the body provided with hair. They consist of distinct bands (Plate II., fig. 2) of an uniform thickness, and oblique in their direction to the surface as well as to the hair. Superiorly they are connected, generally by muscular, but in some cases, according to the interesting investigations of Mr. Lister, by tendinous fibres, with the deeper layer of cells composing the cuticle; while below they become

Cutis.

Muscles of
the skin.

Papillæ.

inserted into the external longitudinal fibres of the follicle. Sometimes the muscle is divided at its origin into several heads, each having a separate point of attachment. In its course it passes, as in the figure, beneath the sebaceous glands of the skin, but without actually touching them, as far as can be ascertained. When in action, the muscles bring the hair into a perpendicular direction, and so occasion the roughness excited by cold and other causes. The upper surface of the corium is studded with papillæ, which may be viewed as conical elevations of the true skin, possessing each an average height of $\frac{1}{100}$ of an inch, and half this measurement in diameter at their base. Entering the latter in a close spiral manner, and forming a loop near the summit of the papilla, are from two to six offsets, derived from branches of the cutaneous arterial plexus, which supply the skin with blood.

Nerves—
their mode
of distri-
bution.

That the amount of nervous matter in the skin is very considerable, may be fairly conjectured from its extreme sensibility; but it is exceedingly difficult to follow, with any reliable accuracy, the termination of the nerve filaments. For a long time it was supposed that the nerves, like the blood-vessels, ended in loops in the papillæ, each final branch losing its axis band, and becoming reduced to a gelatiniform fibre. Later researches have further demonstrated the existence of certain bodies, ‘tactile corpuscles,’ in those parts of the skin, where the sense of touch is most acute. I propose to follow the description of these bodies as given by Funke. In all the papillæ containing nerves, states this author, there is seen in their axis an oblong oval body, occasionally constricted at different portions, and of varying length. It is sharply defined from the rest of the papillary substance,

Tactile
corpuscles.

and conspicuous by its well-marked striæ. The upper part of this body reaches generally to the end of the papilla, and takes up about two-thirds of its width. On nearer inspection, we find that the striated appearance of the tactile body is caused by small parallel-edged shining bands, which are occasionally directed across it. The individual striæ diverge with various degrees of obliquity; often three or four are given off from one point in the centre to the free edge of the body. It is by no means easy to ascertain with precision the extremities of the striæ. Many appear to stop short (their dark edges becoming suddenly pale), without our being able, through a change in the focus, to bring their terminal points into view. We can but seldom distinguish with certainty a knotty or pointed ending of such a cross stria. Funke further remarks, that he has never detected anything like a fibrillar arrangement in the tactile corpuscle. On following the nerves which pass together with a corpuscle to a papilla, we may succeed in tracing the dark-edged fibres to the edge of the corpuscle itself. The nerve fibres either enter like a pedicle at the lower part, or they pass laterally upward to a greater or less distance, or wind round it in a spiral manner. According to this view, the tactile corpuscle is embedded in the papilla, forming a closed vesicle, and filled with a granular mass. Into it the nerves enter in order to spread out into branches, each terminating in a series of small shoots—the cross striæ of the corpuscle. As to the nature of the final ending of the branches of the nerve, satisfactory evidence is wanting. They seem to terminate within the vesicle, in free pointed or round extremities.

Kölliker thinks that the transverse striæ are nuclei,

and with this idea Huxley appears to agree. The strongest argument in its favour is the fact pointed out by Gerlach, that they turn red by imbibition as nuclei do, and as nerve fibres do not. These writers suppose the nerve fibres not to enter the corpuscle. Miesner and Funke consider the stripes to be the ultimate nerve fibres ; the fibre of the nerve, after entering the corpuscle, breaks up into a little bundle of minute fibrillæ. In support of this, they assert that the stripes become converted into fatty molecules, when the nerve degenerates after section. The history of the development of these bodies also inclines to the same view.

The tactile papillæ are situated mostly on the palm of the hand or the sole of the foot, and particularly on the ungual phalanx of the fingers ; in this part Miesner found, within the compass of a square line, 108 of the tactile to 400 of the vascular papillæ. He has traced them, but in fewer numbers and less regularly, on the dorsum of the finger. Kölliker is said to have discovered them in the fungiform papillæ of the tongue, the lips, the imperfectly developed nipple, the glans penis, and the clitoris.

Hair.

Nearly allied in structure to the epidermis is the *hair*, which gives a complete investment to the scalp, and in a rudimentary or less perfect form covers the entire body ; the only exceptional parts which are quite denuded of hair being the palms of the hands, the soles of the feet, and the external surface of the eyelids.

Examined with the microscope, the shape of the hair appears to be cylindrical, and of the same uniform diameter, except where it tapers towards its free extremity. Running through its central axis is a dark line, mostly interrupted at intervals, which represents the internal or

medullary portion. The latter, which does not always exist, being absent in childhood, and occasionally wanting in the finer hairs of the adult, is a tube, filled more or less, with cells, arranged in a single or double row, and flattened by mutual pressure. If some of these be removed, as in Plate III., fig. 5, *d*, each is nucleated, and contains a few granules. The central canal is capable of partial penetration by fluid (fig. 9), and that it does not possess pigment, as formerly supposed, is proved on viewing it as an opaque object (fig. 10), when the dark centre disappears. The cortical cylinder surrounding the central portion is fibrous in its texture, and in part composed of nucleated cells. The nuclei, which are only detected after maceration in caustic potash, are long and slender (fig. 7), and the cells from which they are derived are mostly spindle-shaped. It is to the cortical tissue that the hair owes its elasticity, firmness, and colour; the latter quality residing in pigment granules, which are exceedingly minute and disposed in lines. They are estimated at $\frac{1}{1500}$ of an inch in diameter. The external cylinder surrounding the central portion is fibrous, and composed of a number of fibrillæ, which are collectively encased in a scaly envelope. That the hair shaft is made up of fibrillæ is evident, if it be broken or crushed, or on section, as in Plate III., fig. 3, where the dark points indicate the cut surface of each fibril. The same figure also shows that the hair, instead of being truly cylindrical, is rather disposed to be somewhat irregular or kidney-shaped, or even compressed, its tendency to become flattened increasing with the darkness of its colour, and being particularly evinced in the negro. The outer surface of the hair is not perfectly smooth,

being coated with a single or double layer of cells, imbricated in their disposition, and tortuous or spiral in their relation to its longitudinal axis.

The component parts of the hair are best studied by a comparison of the analogous structures in some of the lower animals ; and I may take this opportunity of referring to one or two instances, which strikingly display the tissues we have just considered. The outward covering of the hair in the bat, for example, shows a regular series of scales, jutting out from the shaft like the barbs of an arrow ; and in the bristles of the hedgehog, or the quills of the porcupine, which are in reality hairs, the fibrous material attains its maximum of development ; the horny part of the quill of the latter being similar in composition to the same element of the hair, and the medullary canal subdivided into a number of partitions, containing fatty granules (Plate III., fig. 4).

The hair, as it enters the skin, which it always does at an angle more or less acute, afterwards increases in circumference, and terminates in a pyriform enlargement or bulb. The depth thus penetrated is determined by the natural strength of the hair, as well as by its situation. In the scattered distribution of the hair over the general surface of the trunk and limbs, as well as in the young subject, the hair scarcely reaches below the cuticle, while in more favoured regions in the adult it will extend through the cutis to the tissue beneath. As soon as it has pierced the skin, the hair is contained in a follicle, which is commonly regarded as an involution of the skin, divisible into an external or fibrous layer, having its fibres disposed longitudinally ; a middle or transverse layer ; and an internal structureless mem-

brane. At the lower part of the follicle is a papilla, rudimentary in man, but of large size in such animals as the tiger or bear, which ascends for a short distance in the interior of the shaft, and conveys nutriment to the cells, but separated from them by a basement membrane. Henle is very minute in his account of the structure of the hair follicle. Besides the external or longitudinal layer, the middle one is composed of a layer of circular fibres, 0·5 mm. in thickness, and resembles in many respects the circular and muscular coat of the intestines. Like the latter, after being treated with acetic acid, it is transformed into a substance consisting of several layers of club-shaped longitudinal nuclei, lying at an equal distance from each other, and disposed in concentric lines. It is distinguished from muscular tissue by not being torn into single fibre cells, and boiling does not render its ultimate substance turbid, or the nuclei invisible. The innermost layer, adds the same authority, is a homogeneous membrane, transparent as glass, unaltered by acids or alkalies, of ·005 to ·008 mm. in thickness, and containing a single layer of annular fibres. The latter are parallel or anastomose at an acute angle.

Structure
of hair {
follicle.

The hair, as is well known, is influenced by a moist or dry state of the atmosphere, and elongates or shortens according to one or other of these conditions. Its electricity in the human subject is often made the subject of experiment. The follicle is freely supplied with blood, a dense capillary plexus, derived (as in the papillæ) from one of the cutaneous branches, ramifying over it. In several injected specimens, that I have lately examined in the College Museum, of the hair follicle or sheath in the vicinity of the lips, the follicle is nearly transparent,

and is not unlike in figure to an ordinary test tube, closed at its lower part.

Colour of
hair.

The colour of the hair in the European race is generally distinguished as 'black, brown, or fair.' In the African and the Asiatic it is usually dark; in the Negro, the hair is scarcely less characteristic than the natural tint of his skin. Well-authenticated instances are related of the hair becoming suddenly white; the change being rendered complete in a few hours. This can only take place through the agency of strong mental emotion, and is said to be caused by an acid, which permeates the substance of the hair, and thus destroys the colouring matter. The whiteness of the hair, so commonly observed as attendant on advanced life, is far from being infrequent among Europeans at a comparatively early age in the tropics. Instances of congenital whiteness of the hair are not often met with. I have under my care at the present time, a girl, aged nine years, an Albino, whose scalp is covered with perfectly white hair. The usual pink-coloured eyes, with light eyebrows and eyelashes, are present in her case. She has two sisters, one of whom in this respect resembles herself, but the other is entirely free from any such defect. Her parents I have examined. They are perfectly healthy, and each has an ordinary supply of brown hair. As far as I can learn, there is no trace of any similar peculiarity in the rest of her family. Another instance, also under treatment, is a girl, eight or nine years of age, whose scalp is quite white in its centre, bounded by a fringe of dark hair. The loss of colour is said to have succeeded scarlet fever.¹

¹ The diversity of colour in the skin among the various races of mankind has long attracted attention. That this difference is, in

The hair consists, in great part, of sulphur, which is soluble in alkaloids giving off ammonia, but insoluble by boiling in acetic acid, which distinguishes it, according to Müller, from horn or from epidermis. The power of the hair in resisting decay, when all the remaining tissues of the body have long crumbled to dust, is attested in the Egyptian or Peruvian mummies, many centuries old, in which the hair alone is preserved. It may be reduced by ultimate analysis to an ash, containing the oxide of iron and manganese; and in white hair, the phosphate of magnesia, and the sulphate of alumina.

Chemical composition of the hair.

The *nails* are horny cuticular coverings placed at the extremities of the digits, on their upper aspect. Each presents a smooth glistening surface, which terminates in a free border in front, while behind at its root, it is received within a fold of the corium. Near this part is seen a white crescentic spot, the lunula. Laterally, the nail is in contact with the epidermis,

The nails.

some measure, attributable to climate is apparent from the fact, that the nearer we approach the equator, the black tint of the native is almost universal; as, for example, in the Ethiopian or the Nubian, who are distinguished by the excessive blackness of their skin, which vies in its hue with ebony. That other influences beyond mere geographical position are at work seems certain. Those who refer the change in colour exclusively to climate, cite the Parsees, who, driven some centuries ago from their country, have long settled in our Indian territories, where they retain a comparatively fair skin; a condition assumed to be due to their sedentary habits and little liability to encounter the rays of the sun. To this argument it may be replied, that the Parsees, true to their creed, preserve their customs inviolate. As they were in Persia in the times of their forefathers, so they remain to the present hour. On the other hand, the Portuguese themselves, the descendants of a fairer because an European race, have, by successive intermarriages with the natives, perpetuated an offspring many shades darker than the aboriginal.

Micro-
scopical
appear-
ances.

and inferiorly it is in intimate relation with, and firmly attached to the cutis. On section, the nail exhibits a number of dry epithelial scales, arranged as so many laminae, and marked by several vertical lines. The latter are, however, merely the effect of disposition of the scales, and disappear under a high power of the microscope. If, after being treated with a weak solution of caustic soda, a thin section be examined, the nuclei of the cells are well displayed in the lower layers of the nail; or separately as in Plate I., figs. 7, 8, where the original form of the cell is restored, containing in its centre a large nucleus. Towards the matrix the nail shows a number of ridges, ending each in a truncated apex, and separated the one from the other by an interval of considerable width. These projections which are no other than cells in a more perfect condition than those of the superficial layers, and containing moreover nuclei, dip down, as we shall presently see, between the corresponding folds of the matrix, and, by thus interlocking, greatly add to the adhesion of the nail to the surface beneath. They cover the papillae also, and materially assist in the production of a new nail, should the old one be violently removed. The papillae are of large size, and extremely vascular; from the abundance of vessels in their interior, they communicate the red tinge which is always observable in a healthy nail through its semi-transparent structure. The matrix from which the nail has been detached, is remarkable for its vascularity. That part of its surface corresponding to the lunula is still white, and sparingly supplied with papillae, which are only just visible, and yet preserve their linear arrangement. No sooner, however, is this line passed, than, as we advance forwards,

Arrange-
ment of
blood-
vessels
beneath
the nail.

the entire surface offers a series of longitudinal folds, displaying the looped arrangement of the blood-vessels in the papillæ, and the furrows separating the latter. As many as from fifty to ninety may be counted at this part, and the highest vascularity is seen the nearer we arrive at the so-called edge of the nail.

The rate of growth of a nail, according to M. Beau, is about two-thirds of a line in a week for one belonging to the finger; but a much longer period, nearly a month, is required for that of the toes. If, therefore, we assume one of the former to measure six lines, a space of 105 days, or 15 weeks, will be necessary for its complete growth; and for the toes, taking the same standard of measurement, 405 days, or nearly sixty weeks, will be needed.

Growth of nail.

Sudoriferous or sweat glands.—These are situated immediately beneath the cutis, where they form so many separate masses of no regular shape, and distinguished chiefly by their darker colour from the surrounding fat vesicles. When unravelled, each gland consists of a single tube, rolled up into a kind of coil, and terminating at its upper part in a duct; or sometimes the tube is double for a short distance before it ends in the duct. The latter ascends vertically, or nearly so, as far as the intervals between the papillæ. From this point, and still preserving the same direction, it becomes very tortuous, and finally ends on the free surface of the skin. Sometimes the sweat glands and ducts are less complicated in their arrangement. Instead of a convolution, one or more turns or loops only are noticed, and the duct, no longer spiral, terminates by a large funnel-shaped dilatation (Plates I. and II., figs. 3, 1). In the fœtus, the glands are represented by so many tubes,

Sudoriferous or sweat glands.

which, although wavy in their course, are not twisted towards their closed extremities (Plate I., figs. 1, 2). Their walls are almost quite transparent, and filled with columnar epithelium, similar to that composing the epidermis. In the adult, the tubes are lined by one or more layers of polygonal nucleated cells, which are destitute of pigment granules.

Perspiration.

The perspiration, which it is the special office of these glands to prepare, is discharged continually. Under ordinary circumstances, the secretion takes place slowly and imperceptibly, the aqueous particles are absorbed as soon as they reach the surface by evaporation, and no sensible change is felt. Should the body, however, be exposed to any influence causing an increased secretion, the latter collects, trickles down the skin, or, as in the palm of the hand, shows a number of transparent points, and there mingles with other matter as those of the sebaceous or cuticular kind. Owing to this admixture, it is extremely difficult or impossible to obtain the perspiratory fluid sufficiently free from impurities as to allow of a correct chemical analysis. An approximation, therefore, can only be made; and in the following tables are given the respective investigations of the sweat by Anselmino, Favre, Schottier, and Funke.

In 1,000 parts	Anselmino		Favre	Schottier	Funke
	I	II			
Water	995	987.5	995.573	977.40	988.40
Solid residue	5	12.50	4.427	22.60	11.60
Epithelium	0.10	0.25	—	4.20	2.49
Fat	—	—	0.013	—	—
Lactates	—	—	0.317	—	—
Sudorates	—	—	1.562	—	—
Extractive matters	1.45	3.62	0.008	11.30	—
Urea	—	—	0.044	—	1.55
Chloride of sodium	2.40	6.00	2.230	3.60	—
Chloride of potassium			0.024	—	—
Phosphate of soda	—	—	Trace	1.31	—
Alkaline sulphates	1.05	2.62	0.011	—	—
Earthy phosphates	—	—	Trace	0.39	—
Salts (total)	—	—	—	7.00	4.36

The number of sweat glands in the palm of the hand, where they most abound, has been estimated by Krause at 2,736 to the square inch. In the neck, a situation least favourable to them, they only amount to 417 within the same space. The total number of glands over the whole body has been computed by the same authority at no less than 2,381,343. Kölliker states that they first appear about the fifth month of embryonic life, and are composed of outgrowths of the mucous layer of the skin.

Number of
sweat
glands.

Sequin attempted to determine the exact amount of perspiration. He fixed the average rate of exhalations from the skin at 11 grains a minute, and that from the lungs at 7 grains, so that $2\frac{1}{2}$ pounds are in this way lost from the skin in the course of 24 hours. The object of the large secretion of water from the sudoriferous glands is to produce cold by evaporation. Cases, which I need not quote, are reported of the intense heat which through this agency the human frame has been known to withstand for several minutes.

Rate of
perspira-
tion.

Probably the best instances of exposure to continued and excessive heat, are afforded by those whose duty it is to supply the furnaces in hot climates. They are invariably natives of Africa, for no European constitution would be equal to the task. The quantity of carbonic acid discharged from the skin has not yet been ascertained, although, as an adjunct to perspiration, this is highly important. Among the amphibia, a class distinguished by the thinness of their integument, it has been proved by actual experiment, that carbonic acid will be exhaled from the skin, after it has ceased to be generated by the lungs. M. Breschet also tried the effect of covering with an impenetrable varnish the skin of an animal, after the removal of the hair. He chose some rabbits and experimented on them in this way. They died, with all the symptoms of asphyxia. It was also shown, that with the application of the varnish the temperature of the body fell. Thus, before the skin was shaved, the temperature of the body was 38° C. ; as soon as the covering became dry, it fell to 32° , and in an hour after sank to $25^{\circ} 50'$. Another function of the skin is absorption. This is frequently taken advantage of in medicine, when we wish to avoid giving substances by the mouth. Familiar instances are supplied by mercurial inunction, or the vapour bath. Solid agents are absorbed with difficulty, and even those of a liquid form act most readily, if the cuticle has been previously removed.

Conditions
of perspi-
ration.

Before quitting the subject of perspiration, a few remarks may be made on the influence of certain conditions, which, to a great extent, regulate or determine its amount. The question has been ably discussed by Weyrich, and is fully considered in the *British and*

Foreign Med.-Chir. Review,¹ which contains an abstract of this author's views. The instrument on which his calculations are based is constructed on the principle of the condensing hygrometer. A detailed account of its structure would be beside my purpose in this place, but I may draw attention to the author's results, which were obtained with much labour and skill. No exact conclusions appear to be deduced from his experiments, in so far as they relate to the season of the year, or the variations of the pressure of the air. The influence of temperature is more marked, and while between 55° and 70° F. the variation in the perspiration is little changed, any excess or decrease beyond this range is followed by a corresponding increment or decrement in the amount of perspiration; that for every 1° C. = 1 $\frac{4}{5}$ ° F. below 55°, there is a decrease of perspiration = 1 or 1 $\frac{1}{2}$ per cent. of the sum total discharged; and on the other hand, an increase of nearly 2 per cent. when the temperature exceeds 70°. The period of the day is also said to contribute a greater amount of perspiration as compared with that of the night. The effect of disease in promoting an increase or diminution in the secretion of the skin is exemplified in fever, in Bright's disease, and in diabetes; and to this I can append, from personal experience, the influence of sleep in causing a marked excess of the perspiratory secretion in severe intermittent fever. The effect of food or exercise in increasing the perspiration is sufficiently patent to every one. The warmth occasioned by the ingestion of hot fluids, particularly those containing alcohol, or even tea and coffee, is well known; while prolonged fasting is

¹ See 'Journal' for October, 1863.

followed by a great want of the secretion of perspiration.

Another species of glands belonging to the skin is the *sebaceous*, which, in their structure, present different degrees of complexity. Sometimes they resemble little bags or sacs, which terminate each in a duct, opening on the free surface of the skin; or, what is more common, communicating with the sheath of the hair a short distance from its upper extremity, and always at an acute angle. The gland sac consists of a transparent nucleated membrane bounded externally by a layer of connective tissue, in which are situated blood-vessels, while internally it is more or less filled with cells containing fat molecules. The wall of the excretory duct is similar to that of the gland sac. In a more elaborate form they are severally made up of a cluster of lobules, the ducts of which, uniting at various intervals, at length end in a common tube. The depth at which they are situated in the skin is subject to variation. It may be stated generally, that the complexity of their structure is proportioned to the thickness of skin penetrated, but like the sudoriferous glands, they never pass beyond the subcutaneous tissue. When connected with the hair sheaths, they are usually arranged in pairs. They are very numerous in the skin in such localities as are covered with hair, as the scalp, armpits, or organs of generation; but altogether absent in the palms of the hands, the soles of the feet, and the glans penis. They also exist beneath the prepuce, where they give rise to a peculiar secretion; and much of the odour emanating from the axillæ is derived from the same source. The smallest glands are those which occur on the scalp; the largest

Their situation.

on the mons veneris, labia majora, and scrotum. Of similar structure are the Meibomian glands.

The secretion furnished by these glands is evidently intended for the purpose of lubricating the skin and hair ; to contribute to the softness and pliancy of each, as well as to moderate the degree of perspiration from the surface. It is a soft greasy substance, modified in different parts of the body. Thus, the cerumen of the external ear is nothing more than a product of this kind, guarding the passage from foreign intrusion ; and of a similar nature is the vernix caseosa, which covers the foetus *in utero*. In hot countries the sebaceous secretion is abundant ; and in these regions its efficiency is increased by being artificially mixed with other articles, to protect the skin from the rays of a scorching sun. In what way, and to what extent, the secretion serves to eliminate impure matters, as the hydrocarbonous compounds, from the blood, it is difficult to say, but that its function in this respect is of paramount importance can hardly be questioned. Its chemical analysis is obtained with difficulty. A microscopical examination of the vernix, according to Dr. Davy, shows a quantity of granular plates and molecules ; the former having some resemblance to tessellated Roman pavement. The plates, he says, are very thin, and vary in size from the $\frac{1}{600}$ th to the $\frac{1}{1000}$ th of an inch in diameter. They are insoluble in weak acids or alkalies. The vernix caseosa possesses, says the same eminent authority, other properties, which I now proceed to describe:—

1st. A specific gravity lighter than that of water, ‘even after several hours’ boiling the whole did not sink ;’ it is retentive of water to an extraordinary degree. 2ndly.

Purpose
of the
secretion.

Vernix
caseosa.

Its pe-
culiar pro-
perties.

At a temperature of 100° it is almost semifluid, and as such admirably adapted for a lubricating substance. Below or above this, at a temperature of 60° or 212° , it hardens, and becomes converted into a kind of paste. A single specimen which he obtained of great purity from a healthy infant, immediately after birth, was found to consist of

13.25	epithelium scales.
5.75	oleine.
3.13	margarine.
77.87	water.
<hr/>	
100.00	

Chemical
composition.

‘A portion of the same was incinerated: it burnt with a bright flame, and left a very small quantity of white ash, hardly $\frac{1}{50}$ th of a grain, although 40 grs. was the quantity consumed, weighed before drying. This ash, in a drop of dilute muriatic acid, dissolved, emitting a distinct smell of sulphuretted hydrogen; and the solution was clouded by adding a little ammonia, thus indicating the presence of a minute portion of phosphate of lime and sulphur—the latter in union, probably with lime or potash.’¹ An analysis, somewhat different, is given by Bueck:—

5.40	epithelium.
10.15	oleine and margarine.
84.45	water.

A protein substance of an unknown nature was found by Leman, in the proportion of 4 per cent., in the vernix caseosa, and 5.6 per cent. in that of the sebaceous matter or smegma of the prepuce. He also discovered more fat, as much as 26.2 per cent. in the

¹ *Physiological Researches*, by John Davy, M.D., F.R.S.

former, and 47·5 in the latter secretion. According to Kölliker, the sebaceous matter is a secretion, consisting of cells composed of fat, or intermingled with fat drops. 'These cells,' he remarks, 'are developed in the vesicular extremities of the glands, by a process of cell formation entirely depending, as in epidermic structures generally, on pre-existing cells. The free fat in the sebaceous matter of the skin arises from the bursting of the sebaceous cells, and probably also from transudation through the cell wall.'

After puberty a small parasite, *acarus*, or *demodex folliculorum*, is often to be met with, inhabiting the sebaceous glands of the skin, and especially where it covers the cartilaginous portion of the nose or the chin. There are few persons, even in health, in whom this animalcule does not abound. The merit of its discovery in 1842, is accorded to Simon, who mentions three varieties of it. Its structure has also been minutely described by Mr. Erasmus Wilson. In the specimens, Pl. V., figs. 1, 2, 3, 4, 5, 6, which are drawn from nature, we observe it in the various stages of development. Taking the full-grown insect, we find a pair of circular suckers, of equal size, and projecting on either side of the mouth, above as well as below; each sucker presents from seven to nine depressions, to enable it to adhere. Attached to the under aspect of the thorax, on either side of the middle line, are four legs, which are separated from one another by equal intervals. They are all alike, and each ends in a *single* sharp and curved claw. The animal in motion exactly resembles a caterpillar; it can retract or expand its legs, which are provided near the base of the claw with an excrescence or spur, on which it rests when putting the

Acarus folliculorum.

Its anatomical structure and development.

foot to the surface in walking. Immediately behind the last pair of legs, but without any line of constriction at the thorax, commences the abdomen. This in length measures half as much again as the rest of the body, and gradually tapers towards the tail, which is truncated. Its lateral edges present a finely serrated appearance, caused by the transverse folds of skin over this part in its whole extent. So transparent is the creature, that the outline of irregular, and for the most part circular masses are visible in its interior, but no sign of an anal or sexual aperture can be perceived. In fig. 5 we can distinctly trace a delicate envelope containing the food and other products, which, wide in the abdomen, becomes narrower in the thorax, when it again appears slightly to expand. Some indication of a division of the anterior part of the body into transverse partitions, corresponding to the several pairs of legs, are likewise visible. In an earlier stage of existence (see figs. 2, 3), the abdomen is relatively much shorter; it either becomes exceedingly narrow, ending nearly in a point (2), or, later still (3), it offers an opposite condition. Moreover, at this period, the animal has only six perfect legs, the hindmost pair being scarcely complete, and not yet visible beyond the outline of the body. In the ovum (1) the body is bent upon itself, but its general character can be estimated even at this stage.

CHAPTER II.

PSORIASIS.

SURPASSING in frequency all other diseases of the skin are those of the squamous class, which bear the names of PSORIASIS and LEPRO, names either of them dating from a very remote period, and including, until recent times, complaints possessing little in common. They now comprehend a large and important section of a single ORDER, which likewise embraces *pityriasis* and *ichthyosis*. Psoriasis and lepra.

The subdivisions or varieties assigned to psoriasis are—*P. vulgaris*, *P. guttata*, *P. palmaris*, *P. gyrata*, *P. diffusa*, and *P. inveterata*.

So nearly in their general character do psoriasis and lepra resemble one another, that they may be ranked under the same head. Both are non-contagious, unaccompanied by any discharge, and distinguished (except in certain cases, to which I shall hereafter refer) by white or silvery-looking scales on the surface, of cuticular structure and origin. They occur as raised patches, with an irregular or oval outline, and may be found on any part of the body or extremities. Their chief seat is the coarser or thicker portion of the skin, as the outer aspect of the limbs, in the line of their extension, sometimes the back ; and when met with as a single patch, the forehead or cheek is not unfrequently selected ; or the scalp, in which case a number of hard General characters and situation.

and irregular ridges are commonly perceived, collected in groups or lines around the roots of the hair, bounded in front by the forehead; while scattered among the hair itself are flakes of cuticle, oftentimes in great quantity. The most common situation of all is that about the elbows or the knees. In the earliest stage, when scarcely perceptible to the eye, a feeling of roughness is communicated to the hand, when passed over the affected skin; and soon a number of slightly elevated red dots are seen, each surmounted with a small scale. As these increase, multiply, and coalesce the disease advances until one or more patches are produced, often remarkable for the abruptness of their margin. The abundance of the scales, may be said to be proportionate to the extent of surface involved, and when this is considerable, the patient's garments or bed clothes contain a mass of cuticular fragments often reduced to mere powder. The effect of slight pressure, or the constant friction occasioned by wearing a stocking, is enough to remove a multitude of them, but they are renewed almost as soon as shed. The approach to recovery generally takes place at the centre of the patch, extending from thence to the circumference, until the latter is converted into an irregular circle, breaking up into fragments which finally disperse, and leave no trace of their existence. The amount of irritation experienced in psoriasis will vary with circumstances. So long as the eruption is acute and extending, much itching is felt, which is apt to be increased by any excess of temperature, as that arising from exposure to the fire, or the warmth of the clothes in bed. In a chronic stage, very little irritation, as a rule occurs, and then it is chiefly at night.

In a large proportion of cases, psoriasis is hereditary, and in some predisposed constitutions would appear to be engrafted, as it were, upon some prior eruption, as eczema, herpes, or impetigo. No period of existence confers immunity from this affection, which may, however, be considered as pertaining rather to youth or middle age, than to either extreme of life; still less can it be regarded as dependent on peculiarity of temperament, or allied to any strumous diathesis. I am able to confirm the statement of Neligan, that psoriasis sometimes appears in the collateral branches of a family, while the immediate descendants are free from the disease. It is more common, however, to find it invade in the direct line; and occasionally it will pass over one generation, and break out in the next. As a congenital affection, I have known it to commence within the first year of birth, and attack nearly all the male children; in this instance, the disease was preceded for several months by red patches, on which scales were subsequently produced. As a general rule, a later period is selected for its primary manifestation, as from five to seven years of age, and more often still the time of puberty, or it may be deferred to early manhood. In congenital cases I have mostly found the firstborn to be the subject of the complaint, but to this there are of course many exceptions. On the other hand, instances do arise, in which no hereditary tendency can be traced; and it is not rare to discover one only of several children, of the same parents, the subject of this disease. Sometimes it is the eldest alone, at others the youngest, who is thus attacked, or it may be any intermediate member of the family. Changes of temperature would seem to have

Often
hereditary.

Causes.

their share in producing, or rather in reproducing, this disorder, which is more frequent in the autumn, or on the sudden accession of severe, or wet weather; and in those who are naturally predisposed, it is apt to follow continued exposure to the sea air. Sudden emotions of the mind, as excessive grief or anger, are noticed, especially by continental writers, as conducive to psoriasis; while improper articles of diet, as acid fruit or vegetables, or shell-fish, are one and all rated among the exciting causes. Certain trades or occupations, as that of a smith, or a gold or silver refiner, &c., or where lime is used, will cause a peculiar form of psoriasis, affecting the back of the hands; and again, when arising from an external irritant, we meet with an inflamed and severe variety, which involves the arms as well as the hands, in washerwomen accustomed to the use of soda. A certain local kind of psoriasis is not an uncommon result of constant pressure acting on the skin, and as such is observed on the neck, or below the chin, from wearing a hard stock; in the female sex, a similar condition occurs on the inside of the knees, from the application of a garter.

One thousand cases of psoriasis and lepra alone have been recorded at the hospital during the years 1861, 1862, and part of 1863, in Mr. Startin's practice, while the sum total of admissions in the same period amounted to 7,687, being in the ratio nearly of 1 to 8 of this one disease to all the rest. In this account I have been careful to exclude readmissions, as well as any complaints that could not strictly be comprised under the term of cutaneous diseases, as struma, varicose ulcers, and other kindred complaints.

Diagnosis.

Although the *diagnosis* of psoriasis is usually unat-

tended with difficulty, there are yet several affections of the skin from which it is by no means always easy to distinguish it. The raised patch, the non-existence from the beginning of any kind of discharge, and, still more, the presence of scales, will in the great majority of cases, prove sufficient in determining the question. Sometimes, in chronic eczema which has become perfectly dry, where the surface is dull red, and covered with thin crusts or scales, the line of distinction between the two is not so evident. For instance, the later stages of eczema rubrum, as seen on the lower extremities, may bear a close resemblance to some forms of psoriasis, or on the trunk, where a furfuraceous desquamation alone remains. On inquiry into the history, if it be ascertained that a slight oozing or 'weeping' was perceived from the surface in the first instance, it will be decisive as to the disease not belonging to the squamous order. Allowing the neighbourhood of the knees or the elbows to be the localities usually chosen, psoriasis, especially where it has existed for years, will sometimes appear on the front of the arm as a large irregular patch, notable for the fineness of its scales and their uniform distribution; at the joint a smooth surface may often be noticed, not perhaps larger than a sixpence in size. This does not happen in eczema; and another distinction in this situation is the absence of those transverse lines which so commonly attend eczema intertrigo.

In one or more of the varieties of lupus, and particularly in that species denominated the erythematous, which occupies the cheeks, eyebrows, and ears, the difference is not so great as might at first sight be supposed. In erythematous lupus, we seldom fail to

discover signs of 'interstitial' absorption of the skin or a persistent redness of the surface with closely adherent scales. Among other aids to our diagnosis may be remarked the age at which this form of lupus occurs, and its restriction in the great majority of cases to some portion of the face or scalp.

It is quite possible to confound psoriasis with chronic impetigo, when it occupies that portion of the nape of the neck protected by the hair. In this region psoriasis is often tubercular, and the roughness thus produced serves to mask its real nature.

Lichen circumscriptus is another complaint liable to be mistaken for psoriasis; and lastly, a very great resemblance between this and chronic erythema papulatum, a disease comparatively rare and not much referred to by surgical writers. In the latter the patches are less in size and more scattered; the irritation which attends them usually is extreme, and they assume towards recovery a purple or violet colour.

Should there be a suspicion that the complaint is syphilitic, which it often is, our opinion will be strengthened by noticing its situation and the imperfect formation of the scales, which besides, being few in number, lack the bright or silvery hue otherwise so predominant. The colour of the affected patch is likewise that of a maroon or dull red. Cases of psoriasis palmaris, or plantaris, are not unfrequently of this kind; or the eruption may occupy an abnormal situation. In many of these specific instances there is an entire freedom of all irritation, unless the eruption occur on the head, when aching pains are sometimes felt in and about the scalp. Again, the co-existence of another cutaneous disease, as eczema or lichen, of the well-known coppery tinge and symmetrical character

which secondary complaints are wont to assume, will be taken into account in the absence of any syphilitic history or other symptoms.

Prognosis.—Leaving for the moment the question Prognosis. of any syphilitic or other complication, the prognosis of psoriasis will be materially influenced by noting the extent and progress of the eruption, and the period of life, at which it was evolved. Should the disease be limited to a single patch of inconsiderable size, whether situated on the extremities or trunk, we may commonly predict a favourable issue in a few weeks ; and a similar opinion may be also given in psoriasis occupying a larger extent of surface, or even in a general form, provided it be the occasion of a first attack, or a considerable interval has occurred between the relapse. In children, as a rule, to which there are few exceptions, psoriasis soon yields to treatment, and the same applies to advanced age, save that the accompanying irritation in the latter continues for a longer time, and is often difficult to subdue. However extensive, psoriasis is seldom or ever fatal. It may affect the patient with little intermission for a number of years, but it leaves in its train no lasting or constitutional effects. Essentially a complaint of the skin, and of a relapsing habit, it is not followed by any morbid thickening or altered state of the integument, while its subjects in other respects mostly enjoy excellent health. Nor is a relapse at all a certain contingency. It may be postponed for many years, or indefinitely, and in local psoriasis especially it may never happen. This much may be pleaded in its behalf. Among the less favourable conditions may be enumerated a recurrence of the complaint, where it has commenced originally in childhood,

or at or even after puberty, as if the tendency to relapse were increased by the primary development of the disease at an active period of nutrition. This I believe is so, although in such cases there may be an absence of all hereditary predisposition. A singular feature in psoriasis is its occasional disappearance. In many of these examples the patient has suffered from childhood, and the patches, limited as they usually are to the extremities, vanish spontaneously at different or distinct periods.

Where the hereditary tendency to psoriasis is established, and at the same time strongly pronounced, there can be little doubt of the intractability in general of the complaint, and by consequence its proneness to return. Of this we often meet with instances in middle age, and the patient recovers at one time only to experience a relapse at another. In spite of their infrequency, cases now and then arise, in which psoriasis has existed in both parents. In such examples, not only is the liability of the eruption to appear in the children thereby greatly augmented, but its likelihood to relapse in them may be predicated almost with certainty.

Among other agencies, which frequently exert considerable influence in psoriasis, may be ranked gout and rheumatism, and the more so, when the eruption appears for the first time in middle age, or beyond it. The supervention of psoriasis upon gout would seem to be more usual in men, in whom it sometimes assumes a degree of severity and extent, and an obstinacy to treatment, rarely equalled by the same disease unattended by this complication. In women, rheumatism is a more common association, and in these, too, a like stubbornness is not seldom declared.

The effect of pregnancy in the determination of psoriasis has been mentioned by some authors, but its influence is far below that of lactation. My inquiries on this subject lead to the conclusion, that it is chiefly in cases of protracted suckling, that psoriasis is induced ; or, at any rate, that it rarely appears until the child has reached the age of four or five months, and upwards ; or else, it is first called into existence by this event. Should the disposition to psoriasis be very decided, as in early life or before marriage, it is then prone to reappear or become aggravated, on the occasion of suckling, attendant upon each parturition ; and as if further to demonstrate its power, I have known the disease to be warded off, when the infant has been brought up by hand, although developed in every other instance, where this precaution was omitted. In cases less pronounced, or in the absence of any marked tendency, the agency of lactation is uncertain, or rather it should be termed irregular, in evoking the eruption. The latter may be delayed until the birth of the second child, or it may succeed to certain parturitions only ; or, again, not until the catamenia have finally ceased.

The *varieties* of psoriasis are the following.

Psoriasis guttata.—This consists of a number of distinct isolated patches, often quite circular in shape, varying in size from a quarter to half an inch in diameter, and generally seated on the extremities, particularly the forearm. Sometimes a few spots appear on the face, or on the trunk only, or they may coalesce and form a larger patch ; in extreme cases, such as are occasionally seen in children, the entire surface, from the crown of the head downwards,

*Psoriasis
guttata.*

with the exception of the hands and feet, is dotted in this way. Unless syphilitic, which it may be, psoriasis guttata is seldom chronic, and, when first seen, the apices of the patches, which are very small, are each covered with one or more thin white scales, that increase, and at last conceal the entire spots. As the eruption declines, the scales are less frequently produced, but the surface remains for some time of a dull red colour. The disease is generally met with at an early age, or in the young adult.

Psoriasis
palmaris.

Psoriasis palmaris.—Notwithstanding the circumscribed area of the complaint when confined to this region, there is no variety of psoriasis, which offers a greater diversity of character. Generally it makes its first appearance in the adult, but it may commence at, or earlier than, puberty. The eruption commonly affects both hands, sometimes only one, and not unfrequently the soles of the feet at the same time. On examination, the palm is usually fissured, and covered more or less with patches, which in some cases are circular, and covered with perfectly white scales; in others, the latter condition is absent, and the surface shows only a number of irregular cracks, especially on the fingers, which bleed and occasion much annoyance; or, the same aspect is rough from the presence of minute scales, while the transverse lines on the palm are marked by excessive whiteness; or, instead of any scales, the same lines are strongly developed, and a preternatural dryness, detected at once with the finger, pervades the entire part. Should the soles of the feet be in like manner implicated, the patient often complains of a hot or burning sensation in these regions; this feeling of heat is also liable to affect the hands, although no appre-

ciable difference can be perceived in the skin. So severe does it become when the patient is warm in bed, that the mere exposure of the feet beyond the clothes is followed for the time by great relief. In all these varieties, there is an entire absence of perspiration in the palm; the hand is hard, stiff, and frequently swollen, while any attempt to flex the fingers is attended with pain and difficulty.

Occurring in any of the preceding forms, psoriasis, in my experience, is seldom due to syphilis. It is more likely to prove so, when it assumes a horseshoe or ribbon shape, although the affected part, whatever its extent, may not exceed half an inch in actual width; it is always dry, and often crossed by painful cracks towards the base of the thumb. As recovery takes place, the diseased portion long continues of a pale rose tint, which distinguishes it from the rest of the hand, and its edges present a fringe of cuticle. In another species of similar origin, the first outbreak of the complaint is denoted by what is apparently a hard corn; this soon changes its character, and a patch is left, denuded in its centre of epidermis, which overhangs its margin on all sides. Sometimes several such patches, of a red colour, are observed, and with little tendency to crack, while the interspaces between them are occupied by sound skin. A common situation for these corns is at the joints of the digits, and especially the thumb or index finger, where pressure is most likely to be applied; sometimes they occur on the soles of the feet. The rarest kind of syphilitic psoriasis is that in which the crusts are no less remarkable for their size than their prominence; they are white with a tinge of yellow, and after a little soaking

in water become easy of removal. The surface beneath is natural or nearly so, and devoid of fissures so suggestive of psoriasis in this region. The scales are not only quickly renewed, but the eruption is apt to spread to the back of the hand, and on the knuckles its elevated character is well seen. Other features which this variety possesses, in common with those of a specific nature, consist in its freedom from irritation, and the abruptness of its border.

Psoriasis
unguium.

In some instances, psoriasis affects the nails or digits. It may be confined to the tips of the latter, which are covered with thick irregular and fissured crusts, more than commonly adherent, and of a somewhat dark colour. Much irritation is felt in the part, and should the complaint continue, it will creep along and beneath the free edge of the nail, which is then secondarily attacked, but in an inverse manner to what usually happens, for it becomes diseased from above downwards, instead of from its root. In other cases, and they are very chronic, we find the ends of the fingers rough, as if the epidermis had been scratched off with a sharp instrument, and to the touch the part yields like a piece of parchment. Psoriasis of the nails seldom exists alone, being more commonly connected with general or inveterate psoriasis, or else supervening upon eczema. These structures lose their smooth and polished appearance, their surface becomes irregular, and they break or split. Sometimes they are painful towards the edge, where they crack, but in the rest of their structure appear healthy. Often may we observe a thick wedge of hard squamous material interspersed between the nail and its matrix, so dense, indeed, as to be scarcely cut with a knife. In others, the surface of the

nail presents a number of circular depressions, not larger in size than a pin's head. Again, in a case in which the nails only are involved, they are sometimes discoloured to a yellowish brown tint, and this is apparently the first change that takes place; afterwards they become irregular, and inclined to turn upwards at their front edges. Unlike the preceding varieties, no pain is experienced, and the new nails are less easily reproduced. A curious form of this disease came under my notice some time ago, in which the anterior two-thirds of all the nails was convex or arched, smooth, whiter than natural, and in texture more like horn; the under or concave surface was hollow, and at this part in no way adherent to the matrix.

Notwithstanding the usually good health of patients who suffer from psoriasis palmaris, the disease, particularly when non-syphilitic, is very liable to return. No sooner is a cure apparently accomplished, than one or more rough spots, readily detected by the patient, show themselves in different parts of the palm, indicating the first sign of a relapse; or a slight crack in the skin of to-day becomes the gaping fissure of to-morrow, displaying in its depth the red cutis below, and painful with every movement of the hand. Sometimes the complaint will leave one palm and attack severely the other; and a patient was recently under my care, in whom this disease alternated with a like affection of the scrotum.

Psoriasis gyrata is extremely rare. In the 1,000 instances previously quoted, 12 only are of this kind, or about 1 in 83; and Mr. Startin in his lectures refers to it as occurring in the proportion of 1 to 100 cases

Psoriasis
gyrata.

of psoriasis, or even more. The peculiarity of the complaint consists in the tortuous or annular arrangement which it presents; this latter character is, in certain cases, so striking from the number of rings produced, as to bear, at first sight, a great resemblance to herpes circinatus or ringworm. Some authors describe it as mostly situated on the trunk, and others on the extremities. I have likewise noticed it on the face, or on the nape of the neck, where its serpentine shape was well displayed; in these examples it is often tubercular, and rendered painful from exposure to the weather. The disease is almost always of a syphilitic character, and devoid of scales.

Psoriasis
diffusa.

By *psoriasis diffusa* is meant that variety which sometimes occurs on the extremities, where it constitutes one or several irregular patches, with an ill-defined border; differing, in this respect, from another kind, which is termed *psoriasis marginata*, where the margin is clearly drawn. Whatever be the size of the patch, the colour is generally of a dull, dark red; and it is frequently crossed with numerous lines or intervals, which have only a few thin scales on its surface, and these are for the most part curled at their edges. In some instances, the expression of *general* psoriasis might be appropriately applied to this species; and it will be often found to attack the face in addition to the trunk; and when it involves at the same time the upper extremities, it spreads to the back of the hand rather than to the palmar surface. The complaint may last for years without deranging the general health, and is sometimes combined with *psoriasis guttata*. In advanced cases, the eruption will literally extend from the head to the soles of the feet; and when the irrita-

tion is so great, that the patient is unable to refrain from scratching, clefts appear on the skin, which oftentimes give rise to a bloody exudation or discharge.

By psoriasis *nigricans* is understood, as its derivation would imply, a certain black discolouration of the scales. I may say that I have never witnessed it; but there is a kind of psoriasis, in which the scales are notably dark, a condition that is sometimes, though rarely, seen. This species, if it may be so styled, is the result of, or at least connected with, irregular or deficient menstruation, or a disordered state of the catamenia; and is, I believe, due to such a source rather than to syphilis, its commonly assumed origin. The patches are, at first, red and smooth; and after the disappearance of the discoloured scales, the smoothness of surface is regained, but the spots long remain of a brown or tawny tint, not unlike to what obtains in pityriasis versicolor.

Psoriasis inveterata is so called from its chronic character. It sometimes covers the greater part of the body with a thin shell, intersected with furrows; or the extremities, when it causes much distress to the patient, as it is found to attack the neighbourhood of the joints, and thus to interfere with their movement. The scales are frequently shed in such quantities that the bed-clothes are covered with a white friable powder, but no relief is thus obtained, as they are speedily reproduced. The skin is dry and harsh. The disease is less common in the young than in those who have passed the middle period of life. Occasionally it coexists with psoriasis unguinum.

Psoriasis facialis or *labialis* attacks the face or

Psoriasis
nigricans.

Psoriasis
inveterata.

Psoriasis
facialis.

the lips. In the former case the subjects of it are usually girls, about the age of puberty, with fair, delicate complexions. A roughness is detected on slight pressure with the finger, and the scales are small and indistinct. The complaint is mostly caused by the constant use of soap to the face; and although it sometimes subsides in the summer, it is ready to return from exposure to cold and wind. Psoriasis of the ears is very uncommon; it is on their outer or external surface that the scales are chiefly formed, and the whole organ is more or less red. Although this may be the only part of the face affected, the disease will, in nearly every instance, appear on some other part of the trunk or limbs. When psoriasis affects the lips, it is in most cases syphilitic. It is sometimes seen as a narrow band, half an inch or more in depth, and commonly invades the lower lip, or surrounds the mouth; or it may appear as a circular and separate spot at the commencement of the lips, encroaching on the cheek, or spread from thence to the nose.

Psoriasis
linguæ.

Psoriasis of the tongue may coexist with general and specific psoriasis, or, what is more frequent, it follows in the wake of syphilis, occurring from six to twelve months and upwards on a primary sore or chancre, and not seldom after other symptoms of a secondary form have entirely disappeared. It is recognised by one or more whitish patches, which are smooth and destitute of papillæ, and by these signs readily distinguished. Sometimes we may note numerous cracks along the borders of the tongue, or ulcerations on its surface, which, as well as the fissures, are the seat of considerable pain; the latter is apt to be increased by certain articles of food, as those which contain hot con-

diments, or by prolonged conversation, or when ulcers of larger size occupy the margin and so brought into contact with irregular or decayed teeth. In addition to the above symptoms, which all point to one conclusion, a fissure will now and then be the forerunner of a small tumour situate in the substance of the tongue, and easily felt by compressing this organ between the thumb and finger. Its hardness is not of that stony nature which prevails in malignant disease, and it is unaccompanied by pain, characters which, with other signs, will rarely mislead us in arriving at a true diagnosis.¹

The treatment of psoriasis should be regulated by Treatment the age and constitution of the patient, the stage of the disease, and its complication or otherwise with any other disorder. When the inflammatory symptoms run high, which is frequently the case at the outset of a general and an acute attack, we should employ the ordinary means to subdue them. The abstraction of blood in any mode is inadmissible. Among the agents at our disposal may be mentioned, the neutral salts of magnesia, largely diluted, in conjunction with those of soda or potash. The sulphate in combination with the carbonate is an excellent form; or the liq. mag. carbon. may be preferred from its little tendency to gripe; or we may add to each dose of the sulphate, one-eighth of the bicarbonate of soda, where the taste of the former is an objection to its use. These medicines are intended to act, but not too powerfully, on the intestines; while to lessen the irritation of the skin,

¹ A fissured condition of the tongue will sometimes exist from birth. In these cases the surface is often very red, but not devoid of papillæ, and free from any ulceration whatever.

should this be excessive, the admixture of antimony will be of great service. In such cases it will be well to examine the state of the urine, which will often be found highly coloured, and loaded with the lithates; here we may substitute with advantage the potassio-tartrate of soda, or the sulphate in lieu of the carbonate of magnesia. The potash salts, as the citrate and bicarbonate, fifteen grains of each for a dose, in half a tumbler of water, may also be prescribed with advantage, two or three times a day, or at meals if much thirst be experienced.

Arsenic.

When the itching has at length abated, we may commence with a different treatment, and administer arsenic, a remedy that has long held, and still possesses, a great and deserved reputation in this class of diseases. In the exhibition, however, of such a powerful agent, care must be taken to discontinue it, should any constitutional symptoms arise. This will not often occur, when properly given, and it is seldom that we meet with instances of the injurious effects of arsenic among the number of out-patients, for whom this mineral is prescribed. The flushed cheek, an injection of the conjunctival vessels, seen at once on depressing the lid, added to a feeling as if some slight irritant were present there, and an increase of redness over the diseased surface, show that the action of the arsenic has reached its curative limit. As regards the relative value of the several preparations of arsenic, the liquor potassæ arsenitis will as a rule prove the most suitable. It sometimes, though seldom, disagrees, when its effects are attended, in my experience, by headache, drowsiness, and an incapacity for exertion, which might be attributed to other causes. Should these symptoms

arise, and they are speedily shown, it is rare that the other kinds will be found to agree, as the arseniate of soda or the chloride of arsenic. The latter is of value, when we wish to combine with it the sulphate or the perchloride of iron, which not unfrequently happens when the patient is below par, or in others, as in chlorosis. In any case, three or four minims may be said to represent the dose most advantageous to an adult, and I am opposed to the practice of increasing the quantity until its constitutional effects are produced. Pereira remarks, 'I have seen very minute doses of arsenic given to patients affected with lepra, and continued for many days without being able to detect the least indication of its action on the system, except the amelioration of the disease. This statement I can quite endorse. In some instances, we may deem it prudent to continue the salines in less quantity, and add to them the arsenic, as in those denoting much plethora, and in others that still require lowering means.'

When the disease is of syphilitic origin, it will be Mercury. desirable instead of arsenic to administer mercury. Thus the eighth of a grain of the perchloride, or its equivalent in the liq. hyd. perchloridi, may be ordered in a suitable vehicle twice a day. I prefer the latter or fluid form, especially in early life, as the dose can be regulated with more precision. Sometimes it is of advantage to combine with it the iodide of potassium in doses of three grains each. In all cases in which mercury is employed, its effects should be carefully watched, and the more so when potassium is super-added. In many, and indeed in the greater number of, instances, no other result is occasioned than a mani-

fest improvement in the complaint. When the latter is therefore yielding under its influence, the mineral should be gradually but not altogether abandoned, until recovery is complete, and I much prefer its exhibition in small doses, and to obtain the desired end, if possible, without proceeding to ptyalism. Before the latter stage is reached, we may expect some such symptoms as the following to appear:—the patient, after taking the medicine for some time, complains of unusual thirst, with loss of his accustomed appetite, and more or less headache; the bowels are also confined, and the tongue white or coated with a creamy fur. Sometimes slight mercurial fœtor can be detected in the breath, although the gums as yet denote no change. Whenever these signs arise, and the patient will be almost sure to refer to them without being questioned on the occurrence of each, we may conclude that the mercury has been pushed far enough; beyond this point it is not advisable to proceed with the remedy, as, by such an event, the final recovery is often retarded. It may, however, happen that incipient salivation has commenced, and the eruption is already on the decline. In this case any further tenderness of the gums may be checked by an astringent wash of borax or alum, and the mercury repeated in smaller doses; or, if more severe, the ptyalism will be effectually controlled by a gargle containing tannin.

Instances will now and then occur, in which the patient is unable or unwilling to take mercury by the mouth. He either dreads the chance of salivation, or refuses on the ground, that he is constantly exposed to the weather, and therefore, as he thinks, unfitted to bear it. The first of these objections is at once met by

the inunction of mercury, or the use of the mercurial vapour bath, as in either mode the risk of salivation is inconsiderable. In the former, the patient is directed to wear a piece of flannel around the abdomen, on which is smeared a drachm of unguentum hydrargyri every day. The surface to which it is applied should be daily washed, and old flannel is far less likely to irritate the skin than new. Sometimes it is more convenient to select the axillæ. It has the advantage of affording greater facility for the absorption of the ointment, and in occupying a region of less extent. One axilla only should be subjected to the treatment at a time, that is, for a day, as the skin is not so likely to be rendered sore. Employed in this manner, mercury rarely deranges the stomach, while the result is shown in the decrease of the specific disease.

With respect to local treatment, a mild mercurial answers best, as the red precipitate of mercury, to which creosote may be added. A formula much in use at the hospital is the following :—Creosote, six minims ; nitric oxide of mercury, ten grains ; and lard, one ounce. It is of importance to remember that much difference exists between the ordinary creosote prepared from wood tar, and the German creosote obtained from coal tar, which is almost identical with carbolic acid, and greatly to be preferred. Among other applications may be mentioned the compound mercurial ointment consisting of six grains each of the white and red precipitate, to an ounce of cerate ; or the red ointment, which is composed of bisulphuret of mercury, nitric oxide, of each five grains, to an ounce of lard. The patient should be directed to use one of these ointments at night, and in the daytime sponge the surface

with a lotion, either of the following kind, or one of mercury—a grain of the bichloride to one ounce of water.

Carbolic
acid.

Carbolic acid has now been sufficiently tried to test its merits, and the value of it is declared in subduing the irritation of the skin. It is best employed as a lotion with which to sponge the affected parts, whenever the irritation is excessive. The quantity for this object will vary from one to three grains to an ounce of water, with the addition of a small supply of glycerine. Another lotion prepared from the liquor carbonis detergens, as manufactured by Wright, is also of great utility; applied to a wide extent of surface, and with a view to check the itching, it should be largely diluted, in the proportion of half an ounce to eight ounces of water; but when the eruption is limited to a single patch or so, it may be used alone, and allowed to dry on the part.

Nitric acid.

The application of nitric acid in solution, one drachm of the dilute acid to seven or eight ounces of water, is often beneficial in certain kinds of psoriasis of the palms or soles of the feet. To a more delicate surface, such as the skin of the face, an useful agent will be found in the biborate of soda, in the proportion of about one drachm to half a pint of water, and half an ounce of rectified spirit.

Blistering.

In a patch of psoriasis which has become chronic, it will sometimes be of advantage to blister the surface with the glacial acetic acid, or the common preparation of cantharides, under the influence of which the colour of the part immediately becomes white. In either case the blistering fluid should be at once washed off with a brush dipped in plain water, other-

wise a bleb will most likely form, and produce much local annoyance, besides checking recovery. It is convenient to have at hand a weak solution of soda or ammonia, in order to diminish the irritation, should it prove to be severe. The vesicant may be painted over the surface with a camel-hair brush, or the feather of a pen, and then allowed to remain undisturbed for two or three days.

Various other remedies are in repute among continental surgeons, as the decoction of dulcamara, &c. Dulcamara. Cazenave speaks highly of the tincture of cantharides internally in those instances, in which the disease has reappeared without evident cause. He recommends it to be given at first in doses of four or five drops in water, and gradually increased to twenty-five or thirty drops a day, if no serious symptoms arise. He cites a case of lepra of eighteen years' standing that recovered under this treatment. The external use of the ioduret of sulphur in local psoriasis, in the proportion of twelve to twenty grains to an ounce of lard, is also recommended by him. The *huile de cade*, or oil of juniper tar, is much in vogue in France as an outward application in psoriasis. It may be mixed with equal parts of simple cerate, or used alone. M. Hardy, in his *Leçons sur les Affections Cutanées*, says that it should be well rubbed into the whole of the affected surface.

The balsam of copaiba is also favourably spoken of Copaiba. abroad, as an internal remedy for psoriasis, but it is seldom employed in this country. An instance is quoted by Hardy of psoriasis and blennorrhagia, in which copaiba was administered. Not only did the latter complaint cease, but the cutaneous eruption itself disappeared under this treatment.

Baths.

Patients will derive great comfort from an ordinary warm bath, but on no account should soap be used; for the latter a substitute may be obtained in oat or barley meal, or in thin starch. Of great service in chronic psoriasis is the alkaline bath, which may be resorted to once or twice a week, at a temperature of 95° or 96° F. It is prepared by adding four or five ounces of the carbonate of soda to a pint of hot water, which is then mixed with twenty-five or thirty gallons of plain water; or, instead of soda, from six to eight ounces of powdered borax may be employed in a similar manner. The sulphur mineral baths are of efficacy in some intractable instances of psoriasis inveterata. Those of Harrowgate and Aix-la-Chapelle are among the number which most deserve our attention. The same may be said of the alkaline springs of Vichy and Ems, which consist chiefly of the bicarbonate of soda; but preferable to either in many cases, and most of all in those who need besides a pure and an invigorating air, are the iron and arsenic or the alkaline and arsenic waters in the Auvergne, as those of Rogat and Bourbole.¹

Diet.

A strict diet should be enforced. At whatever age the disease shows itself, all kinds of stimulating food, highly seasoned or made dishes, should be avoided. The same prohibition likewise extends to salads, sweets, pastry, and fruit. Roast or boiled meats, eggs, plain puddings, and the like, are allowable, but exception must be taken to shell-fish and salmon. So long as the complaint is acute, as evidenced, besides other symp-

¹ An interesting account of these springs will be found in a work entitled *Auvergne, its Thermo-mineral Springs, &c.* by R. Cross, M.D.

toms, by the deposit of the urates in large quantity and by thirst, such beverages as seltzer, soda, or Vichy water may be taken with benefit, or even plain toast and water. With regard to alcoholic and other fermented drinks, should the patient be accustomed to the use of wine, there will be no need to withdraw it, especially if in a diluted form; and the same applies to whisky or gin, if either of these be preferred. He will do well, however, to abstain from all sparkling wines, and malt liquor of any kind.

Psoriasis is sometimes complicated with albuminuria; and when this occurs, the co-existence of gout will generally be remarked. The association is more frequent in men than women, and particularly about middle age. The albumen varies greatly at times, and the specific gravity is usually low; but the patient does not often betray in his condition any sign of disease; thirst is seldom present, but headaches in the morning are common, and the quantity of urine voided is in excess. These cases require, if I may employ the term, to be carefully coached, especially as regards diet, which should be of the plainest and the most simple kind. Much benefit will be derived from the use of the ordinary warm bath, to which if powdered borax be added, as previously explained, additional comfort will ensue. It should, if possible, be established in the house in which the patient resides, and taken before dinner or at bedtime. A warm and equable temperature is also desirable, and the patient should be careful to avoid exposure to easterly winds, and, as far as can be, fatigue either of body or of mind. As to treatment, some preparation of iron agrees best; and if mercury be employed, the plan

Albumin-
uria.

by inunction is to be preferred. The patient should be content with obtaining relief, and this can always be afforded as regards the eruption, rather than a complete recovery; and by management and care life may be often prolonged for many years.

CHAPTER III.

PITYRIASIS.

Pityriasis is a disease, deriving its origin from the Pityriasis. Greek word *πίτυρον*, or bran, the flakes of which it was thought to resemble. Hence it is distinguished by numerous small, thin, and white scales on the surface, which present all the characters of ordinary cuticle. In common with other complaints of the same class, it is unattended by any discharge, and except in one variety is non-contagious. It differs from *psoriasis* in the diminished size of its scales, which are neither raised as crusts, nor disposed as circular patches in the vicinity of the larger joints; and from *ichthyosis* in not being a malformation of the skin. Essentially a chronic affection, it is for the most part unaccompanied by febrile or constitutional disturbance.

Pityriasis is divided into general and local. It admits also of another and wholly separate variety, *pityriasis versicolor*. Two other kinds are also mentioned by Startin, Cazenave, and others, but they are extremely rare.

As a *general* complaint, and one involving more or less the entire frame, pityriasis is uncommon. It is met with in one of two forms, either as a congenital

Derma-
titis.

disorder, and hence developed at an early age, when it should be regarded as ichthyosis; or it appears in after life, and suggests the idea of *dermatitis*, or true inflammation of the skin. A sense of constriction or tightness is felt over the affected surface, and likewise great irritation, particularly at night, when the patient is warm. There is also a certain amount of swelling of the part, and this chiefly on the face or lower extremities, but not the scalp, which is further free from another symptom common enough elsewhere, viz., redness. Over the whole skin thus attacked a fine cuticular desquamation may be observed. After a variable period, it may be a few days, or even weeks, the eruption declines, the swelling and increased colour disappear, but the scurf as well as the itching remain for some time longer, before they finally cease.

Local
pityriasis.

Local pityriasis resolves itself into *pit^s capitis*, *pit^s labialis*, and *pit^s palpebrarum*. It is useless to multiply the several varieties occasionally described. The former is known by an excess of scurf or dandriff, diffused as minute scales among the hair, and frequently generated in great quantity. Some of these scales are attached to the scalp, where they often present an imbricated arrangement, but the surface beneath retains its white or normal colour. If the complaint be seen in a very early stage, red patches may be sometimes noticed, but this condition soon passes away. The most common kind is that which occurs in infancy, or in those whose complexion is naturally fair; and its continuance or increase would seem to be often caused by the constant use of a hard hair-brush or tooth comb, or soap to the part. In some of these cases, and especially where it occurs for the first time

in older children, a constitutional disposition to the complaint is observed, and it will even affect to a greater or less degree nearly all the members of the family. Pityriasis capitis is frequent in advanced life, and appears like a cloud of dust when the hair is disturbed.

Another form of pityriasis is characterised by a reddened state of the skin, and in particular that of the ears, temporal region, or forehead, which is occupied by scales, of the thinness of tissue paper. The patient complains of a sensation of tension and heat in the part. More generally observed in women than in men, the eruption in most cases attacks the cheeks, and when occurring at or beyond middle age is often associated with indigestion and torpidity of the bowels. Sometimes it is the forehead, which is chiefly attacked, especially in girls; the same feeling of heat is felt, but there is no preceding redness of the surface.

Pityriasis labialis surrounds the lips and adjoining parts. Some red stains first appear, on which are evolved small, thin, transparent, cuticular laminæ. With the progress of the complaint the scales fall off, only to be succeeded by a fresh eruption; and the lips at length become swollen and red. This affection is sometimes very obstinate, and may last for years.

Pityriasis
labialis.

Pityriasis palpebrarum affects the eyebrows, and is often congenital. It is most frequently met with in females, and seems occasionally associated with an imperfection or alteration in the structure of the skin in these parts, resembling nævus. Pityriasis of the face is very common in children, particularly

Pityriasis
palpebra-
rum.

among those of the poorer class, who recognise it as 'scurf' of the face. It shows itself as one or more rough spots, but causes no irritation.

Pityriasis
versicolor.

Pityriasis versicolor, or *chloasma*, as it is sometimes termed, is a disease wholly distinct from the preceding, and often classed with the tinea group. It is caused by the presence of a vegetable parasite or cryptogame, the *microsporon furfurans*, to which is due the singular colour of this complaint, which assumes a yellow or brownish hue, often resembling that of liver, whence the name of 'liver spots,' by which it was formerly known. Not only does the tint vary in different examples, but even on occasions in the same person, sometimes being so light as to be scarcely perceived, while in others, especially if the skin be fair, it can be recognised immediately; or it will be of a reddish tinge, should the patient be of a ruddy complexion. The eruption occurs as patches, which, when recent, are generally small and circular; in advanced cases, irregular and extensive; and in all, scarcely raised above the surrounding level. The large spots, it may be noted, are nothing more than an aggregation of small ones, which, as so many centres, increase, and at length unite at their circumference: indeed, some of the latter may frequently be observed near the margin of a good sized patch, like a cluster of dots, separated from each other by healthy skin. Even where it has long existed, the disease in some instances will retain its scattered form, whether on the extremities or trunk. The irritation occasioned by *chloasma* varies very much; it may be, and often is, scarcely felt at any time, and then only by accident is the patient made aware of the existence of the com-

plaint. As long as the itching is not experienced, or at any rate inconsiderable, the surface of the patch is mostly smooth, but on its occurrence a scurfy condition is developed, and small flakes everywhere abound.

Microscopical characters.—In order to examine the fungus, all that is needed is to scrape some of the scurf from one of the spots, and add to it a drop of liquor potassæ or acetic acid, by which means the parasite alone is preserved. It differs from other growths of this class, according to Kuchenmeister, in the length of its filaments and the character of its spores. With the aid of a microscope the parasite will be observed to consist in some cases almost entirely of mycelium, the spores being few and sparse; the former occur as tube-like filaments, and present great variety of shape. Thus they may constitute, as they are frequently found to do, a close reticular structure, whose branches interlace and communicate freely, but the ultimate ramifications of which it is very difficult to trace; or, again, after proceeding singly in a straight line, or nearly so, they terminate abruptly; or, what is more common, they show an evident tendency to divide at a right or larger angle, still retaining the same diameter throughout. Other filaments, it may be observed, are more or less curvilinear, and thus describe different segments, not unlike some of our capital letters, as C, D, E, and X. With a higher power, as the eighth or tenth of an inch, not only may be distinguished some of the smaller tubes, breaking up into spores at their free extremities, but likewise round secondary bodies in the interior of the tubes themselves. The spores are recognised by their spherical form, and the contrast they afford to the

Micro-
scopical
characters.

mycelium, from which they spring. When clustered together in considerable number, they may not be inaptly compared to a bunch of grapes, and the resemblance is rendered yet more complete, by the variation in size of the main elements of each. Whether all the spores possess a secondary body may be open to question, but the largest are plainly seen to contain a bright and clear nucleus, which reflects the light strongly. The relative proportion, which the spores and mycelium bear to each other, will vary in different cases. As I have previously remarked, the latter will sometimes greatly preponderate, and at others the spores will be largely in excess.

Although the parasitic nature of *pityriasis versicolor* has been clearly demonstrated, what the conditions are which primarily determine it, is a problem which still presses for solution. It cannot be affirmed, that the disease in question is dependent on the general health, or more frequent in one rank of life than in another, or due to any particular vocation. My late colleague, Mr. Startin, was of opinion, that the eruption was more often noticed in those who bathed in tidal rivers, near the junction of the latter with the sea, than in others; and in his practice I have met with instances corroborating this view. Certain it is, that those who pay every attention to personal ablution are, in no degree, exempt from it. Whatever the hypothesis of its origin, I believe that an active state of the skin, that in which perspiration is easily induced, should be ranked among the agencies, specially favourable to its development; while an opposite condition indicates the reverse, and in no form of ichthyosis, using this term in its widest sense, have I ever known chloasma to

occur. Another important adjunct in the growth of the parasite is warmth, whether from the surrounding atmosphere, or the wearing of woollen garments next the skin, and with particular reference to flannel. Hence we find evidence enough of the complaint in hot countries, as the East or West Indies, or the South American coast, where its frequency is often remarkable ; and even in our own, the number of cases of this class, whether produced or reproduced, is much greater in summer, than at any other season of the year. As regards the effect of flannel, examples will sometimes be found, in which it has never been used. Nor is there anything in this material beyond its warmth and uneven texture, which can be considered capable of exercising any influence on the complaint. Still, I have observed cases in which a relapse of pityriasis versicolor has been manifestly caused by wearing flannel in close contact with the skin, if accompanied at the same time by sufficient warmth, derived from exertion or otherwise, to excite some degree of perspiration in the part.

A peculiarity of this disease is, that it never appears before puberty. The age most favourable for its occurrence, is that between the twentieth and thirtieth years ; beyond middle life it decreases in a marked manner, becoming rare at 50, and only in one instance did I ever see chloasma at the age of 70 years ; and then it had existed only twelve months. Some influence would seem to be exerted by sex, and the ratio of 5 : 3 may be said to denote, with tolerable exactness, the proportion between the male and female, with respect to its frequency.

Pityriasis versicolor occupies in general the trunk, Situation, and is often abundant on the loins. In many instances,

although of several years' standing, it is entirely limited to this region. Another favourite locality is the front of the elbow joint, where a smooth and frequently irregular patch alone is seen—or the axillæ; or, the arms are throughout studded with round spots, which decrease in size as they approach the wrist, encroaching it may be on the back of the hand, but never on the palm. Sometimes the complaint is confined to the genitals, as the scrotum and the adjacent aspect of the thighs, which present each on its inner surface a large brown and clearly defined patch; or it extends to the penis, which shows a curious parti-coloured appearance. On the lower limbs, the eruption is sometimes seen at the popliteal space, but not, in my experience, below this boundary; and when the extremities are attacked, chloasma is generally symmetrical on either side. Seldom is it witnessed on the face, and in two instances only, have I known it to happen in this situation. The patients were both young women, who also had the disease on the breast; in one, it had obviously spread from this part to the neck, and afterwards to the cheeks and forehead; in the other, no such extension by continuity was perceived, and the forehead was the only portion of the face affected. More rarely still, does chloasma occur on the eyebrows and scalp. Some two years ago, an interesting case of this kind came before me, wherein the patient, who had served on the Medical Staff in India, had long been troubled with the complaint on the body, the thighs, and likewise the eyebrows. In the first and second of these localities, the disease differed in no degree from that commonly observed, but on the eyebrows the hairs most affected were rendered so brittle as

to make it difficult to extract them ; even to the naked eye, a manifest increase in their size was apparent, while the constant irritation they occasioned led the patient to rub the part frequently, or to pull out the hair. An examination with the microscope left no doubt of the existence of spores.

The causes of pityriasis are obscure, and cannot often be traced with accuracy. In the young subject, pityriasis capitis is occasionally attended by a partial falling off of the hair, but not to any extent ; and as the disease improves, it becomes restored, and no permanent baldness results. The eruption is sometimes seen in young women, who are subject to headaches ; and at a later period in men, who are also out of health. In the latter, there is much itching of the scalp, and the loss of hair is sometimes considerable. Causes.

In certain instances, pityriasis versicolor is undoubtedly contagious ; and cases are now and then met with, where more than one member of the same family has become affected with the disease. It is well, therefore, to be guarded in giving an opinion on the question of non-contagion in any single case of this kind, however remote the chances of its becoming so may be. In this country, it is only about one in ten examples, which would appear to be thus communicable, and then the property of contagion is chiefly confined to those, in whom the eruption is recently developed. In the tropics, on the other hand, the complaint often spreads with rapidity, particularly where a number of men are crowded or live together, as in a barrack room, or on board ship, where the same conditions are fulfilled. Question of contagion.

The diagnosis of ordinary pityriasis is not difficult. Diagnosis.

I have already mentioned, that this eruption approaches much in character to psoriasis, from which it is distinguished by the farinaceous condition assumed by the cuticle, which is shed and renewed again with great rapidity; the patches of psoriasis are also more or less raised, and occupy oftentimes a red base, irrespective of their locality. Some examples of eczema occurring in infancy may be mistaken for it, where the colour of the skin is hardly changed, and no vesicles are detected; but on closer examination, the thin crusts or lamellæ are more disc-shaped, and are neither produced nor reproduced to the extent observed in dandriff. No error is likely to arise from confounding pityriasis with lichen, as the papular nature of the latter, added to its rough surface and situation, will be enough to point out the difference between them.

Lentigo
hepatica.

However dependent pityriasis versicolor may be for its diagnosis, on the peculiarity of colour, which distinguishes the eruption, from its commencement almost to its termination, it would be unsafe to pronounce this one character, as unequivocally pathognomonic. In that unusual form of disease, to which the term *lentigo hepatica* may be properly given, the brown-stained spots of chloasma are often equalled, and, in point of intensity, even occasionally excelled. The present opportunity I therefore take of offering a few observations on this complaint, since of all others it is that which is most likely to be mistaken for the parasitical affection. Lentigo hepatica is not seldom noticed on those parts which are exposed—as the face or neck, or the back of the hands, extending from the fingers to the wrist or the elbow. In the latter regions the spots are frequently of a deep brown, while the inter-

spaces of healthy skin, although irregular, are sharp and well defined at their margins. - The patches present every kind of shape; they are always smooth, and in many instances quite symmetrical, as when occurring on the cheeks, the limbs, or the trunk; they are likewise, as a rule, devoid of any feeling of irritation or itching. Another peculiarity which this complaint possesses, is that in certain cases it will disappear at least for a season, generally the winter, and return again for a similar period the next year, and be repeated, in like manner, year by year. When on the face, the disease is sometimes restricted to the forehead or the cheeks; or, what is more common, it will encircle the mouth and chin, showing, in any case, a border singularly clear and abrupt. In other examples, lentigo hepatica is extensively developed on the trunk and extremities; or it may be confined to the lower part of the abdomen, and the genitals. Unlike chloasma, lentigo hepatica may happen in childhood as well as in the adult. As instances of its occurrence in early life, I may briefly relate two; in one, the little patient, eighteen months old, was spotted like a leopard over every part of the body, from the forehead and face to the ankle. The patches were of an average size of a shilling. In the other, a young lady of ten years of age, the patch, of a liver colour, was situate on the loins, about the middle dorsal region; in extent it was as large as the palm of the hand, and at one portion of its margin smaller spots could be seen. It had existed ever since she was a few months old, and within the last three years, two more spots of a similar kind had appeared on the front of the chest. To this account of lentigo hepatica, derived from cases under my own care, I have

only to add, that this complaint is in no way to be considered as of eryptogamie origin.

Treat
ment.

Treatment.—In pityriasis of the scalp, the patient should be directed to have the hair cut moderately short, to use a soft instead of a hard brush, and to wash the head once or twice a week with the yolk of egg, afterwards rinsing it with hot water. At night the following liniment should be well rubbed into the roots of the hair: nitric oxide of mercury eight grains, glycerine two to four drachms, and cerate one ounce. The syrup of the iodide of iron, or the compound iron mixture of the London Pharmacopœia, or quinine with one of the mineral acids may be given, if the health require it. Should pityriasis involve the face, which it is apt to do from exposure to cold winds, the patient may use with advantage some such ointment as the following: five grains of camphor, half a drachm of glycerine, and an ounce of cerate or cold cream; or apply the same before going out in the open air, and wear a thick veil to further protect the face.

In the treatment of pityriasis versicolor, our object is directed to get rid of the parasite, which may be accomplished by various means. Sulphur offers the readiest and most certain mode of effecting relief, and for this end, the sulphur vapour bath should be administered two or three times a week, or even oftener, if the health allow. The remedy acts at first on the sporules, which it destroys, and subsequently on the mycelium, a more tedious process on account of its deeper ramifications. The primary purpose of the sulphur is therefore to prevent any increase or accession of the numerous spores; and of its rapid effects we may readily judge, by examining a patch previously loaded

with sporules, a day or two after the application of this agent, when few, if any, will remain. Although sulphur as a bath will alone suffice, the patient should be recommended to apply, in addition, some form of mercurial ointment at night, taking care that no part of the affected surface escapes notice; and in the day, to have recourse to a lotion of weak nitric acid, half a drachm to eight ounces of water, with the addition of from eight to ten grains of the bichloride of mercury; or one containing two or three drachms of the hyposulphite of soda, and half a drachm of borax, to a like quantity of water as above. It is necessary, that these remedies be continued, until every vestige of the complaint is removed, otherwise a relapse is likely to take place. If a patient be so circumstanced that the vapour bath is inadmissible, he should then resort to an ointment wherein sulphur is the main ingredient, in the proportion of half a drachm to an ounce of benzoated lard, and eight or ten grains of the red precipitate, or the bisulphuret of mercury; the latter has the effect of disguising the colour of the sulphur, while its odour may be controlled by a few drops of oil of bitter almonds or sandal wood. In the winter season, when the skin acts but little, the use of a lotion may be dispensed with, but in the summer time it will form a valuable addition to the other means employed. Sometimes the sulphur acts too freely on the skin when more than commonly sensitive, and the patient complains of irritation in the part, which on examination is more or less rough, and often streaked with red; and I have known the sulphur from the bath, by collecting on the surface, occasion no small annoyance. In such cases the remedy is clear. When sulphur is objected to, the external application of

mercury as an ointment will seldom fail of success, particularly when a lotion of the hyposulphite of soda is used besides. As regards internal remedies, when the patient perspires in each, and is out of health, quinine with the mineral acids may be prescribed.

CHAPTER IV.

ICHTHYOSIS.

ICHTHYOSIS is a complaint, commonly classed with the squamous group, and when seen in certain examples presents a remarkable appearance. The name, derived from a fancied resemblance, which its scales bear to those of a fish, refers rather to their abundance than arrangement, as the absence of any imbricated method marks the affection in every stage and variety. In many cases, the scales are very thick, disposed as so many small squares, and often rendered dark or nearly black from continued exposure; they are, as a rule, chiefly developed in the vicinity of the larger joints, as the knees, ankles, and hips; occasionally the clavicle, and in females the circumference of the nipple.

According to Simon and Rayer the scales are composed of hypertrophoid cuticle. In a case that was recently under treatment at the Skin Hospital, I was enabled, without difficulty, to collect a sufficient quantity for analysis, which Dr. Marcet kindly undertook. The results he gave are as follows :—

‘The principal points of interest in my analysis are the large proportion of ash, insoluble in water, consisting mainly of lime, magnesia, and iron (91 per cent. of the whole ash is insoluble), and the absence of chlorides and phosphates. There is also a large quantity of fat present.

Ichthyosis.

Analysis
of the
scales.

100 parts of the dry scales contain —

Organic matters,	{	Fat, soluble in æther,
91.45.	{	13.88.
Inorganic matters,	{	Soluble in water, 9 per cent.
8.55.	{	Insoluble in water, 91 per cent.

‘Substances insoluble in water consist chiefly of lime and magnesia, apparently combined with organic matters, as the ash evolves carbonic acid when treated with hydrochloric acid. There is also some iron present.’

Comparing this with the previous analysis of the skin, the proportion of fat in the latter, 11.32, is not widely different from that found in the ichthyosis scales, 13.88 per cent. It is, however, in the inorganic or mineral matter that the distinction is most evident, being 1.63 per cent. in the one, compared with 8.55 per cent. of the other. From these it would follow, that ichthyosis was something more than a mere excess of cuticle, being rather a special morbid growth.

A good illustration of ichthyosis was afforded in S. B., a girl fourteen years of age, admitted into the hospital under the late Mr. Startin. The scales covered every part of the body except the soles of the feet and the palms of the hands, where the skin was only rough; they were also absent on the ball of the thumb and the upper lip. Their greatest development was attained on the hips and elbows; but the neck, back, and outer surface of the limbs were severely affected. The large scales were irregularly fissured, and some of them curled at their margins. Thickest on the knees, they existed as large flakes on the abdomen and the thighs. The forearms on either aspect were covered with dark rectangular scales, which became circular or oval towards the wrist, and slightly depressed in their centre.

Such, briefly described, are the characters of ichthyosis, as they occur in extreme instances. There are, however, many cases no less typical, but which differ from the preceding chiefly in the disposition of the scales. The latter are remarkable for their size and

tenuity, as well as for the rapidity with which they are shed and renewed. The skin also inclines to a reddish hue.

In a *third* kind, an intermediate stage is represented between what might be termed *pityriasis* and *ordinary ichthyosis*. It is a far more frequent species than those just described, and its scales are thinner and more abundantly diffused than in the latter affection. In common with the rest, this complaint is always congenital, and as such it differs from other hereditary diseases, in not being declared at the time of puberty, or yet at a later age. The most usual period for its primary manifestation is from the third to the sixth month, and seldom is it delayed beyond the first year. It commences generally on the scalp and face, sometimes on the back, extending from thence over the whole surface, and varies from one to two or more years, before it is complete. In some of the worst instances of its occurrence, it is associated from birth with a deficiency of the eyebrows and eyelashes; while in cases less pronounced, these may be but partially present. Although, at its origin, the face is usually attacked, the disease, in its progress, is often less confirmed in this, than in other localities, as the loins and front of the legs; and the patient's garments or bed clothes will be constantly covered with numerous scales, which are regenerated almost as soon as shed. The skin everywhere feels preternaturally rough and dry, not excepting the hands and feet; and one distinguishing element of the complaint to be often noted, consists in that absence of perspiration, which, in cases of severity, would seem to be perfect, the skin retaining its dry character even in the hottest day. As might

be anticipated, the condition of the patient thus situated, depends in no slight measure upon the seasons, the disease being found to yield to the influence of mild weather ; while, on the other hand, it is readily affected or increased by cold. In winter, or in a piercing wind, the patient is pretty sure to suffer, particularly on any surface uncovered, as the face or fingers ; or should he afterwards approach the fire, or become otherwise heated, the same parts tingle and smart. A similar result will sometimes follow exposure to the sun's rays in summer, which, without flaying the skin, produce great irritation on the cheeks and nose. In other cases, the feet around the heels are apt to become fissured and painful after walking, or much inconvenience is occasioned from the friction of the scales in front of the ankle, or at the groin.

Absence of
scales.

A yet lower type of ichthyosis, I would add. The subjects of it are distinguished by a similar want of perspiratory action of the skin, as in the last named, or by its limitation to some particular region. This may be, and most generally is, the palmar or plantar surface, or the axilla, or the face and neck ; and I have known a small space on the loins, or the front of the chest, the only part capable of secreting. Sometimes the spot thus selected constantly perspires, or it is only the great heat of summer which induces it to do so. Again, the presence of scales, although so prominent a feature in all other forms of ichthyosis, is not remarked here ; and scarcely can the hand, much less the eye, detect any appreciable difference in the integument from that of the normal state. Such patients are often remarkable for a redness or freshness, as it might be called, of the cheeks ; and particularly is this noticeable after the least excitement or exertion. That these

cases do in reality pertain to the class under our present consideration, is sufficiently attested by the hereditary nature of the complaint, and by the evolution of its higher grades in other members of the same family, and not seldom its occurrence in direct descent. One complication I must likewise add, which, almost always overlooked, deserves mention in this place. I mean, its occasional association with prurigo. The latter is, in many instances, severe, and productive of the utmost annoyance to the patient, whom it may affect at any age, from early life to youth and beyond it. Towards night, especially, exacerbations are wont to occur, as on approaching the fire; or the same takes place from exposure to cold, or when undressing.

Ichthyosis may exist in the foetus, and in a most aggravated stage. In these, the skin appears tightly stretched throughout, and over the trunk and limbs, it is ruptured in transverse or parallel lines. The eyes are fixed in consequence of the rigid state of the lids; so likewise are the lips, which are converted into hardened bands, and expose the gums, and no vestige of an external ear is seen. The entire body presents an assemblage of lozenge-shaped spaces or intervals, caused by a separation of the fibres of the cutis, sufficiently numerous and distinct to warrant the appellation of a 'harlequin' foetus, which is given to it. The only museum, as far as I am aware, in the possession of this remarkable class, is that of Guy's Hospital, which contains four excellent specimens of this singular deformity of the skin. Much as it is to be regretted that no history is attached to them, I was fortunate in learning from the late Mr. Scarr, of Bishops Stortford, who presented one of the above preparations

Harlequin
foetus.

to the hospital, that not only in this instance was the mother's labour perfectly natural, but the foetus survived its birth for some seconds. I may add, that by the parent the complaint was attributed to a sudden and severe fright she experienced, when attending a country fair at the time of quickening.

Partial
ichthyosis.

Instances are often met with, in which ichthyosis occurs only in a partial form. These betray a roughness of surface, varying in degree and extent in different cases, but chiefly observed on the outer aspect of the limbs, and on the loins, and, most of all, in the vicinity of the knees, or other large joints, or the axillæ. We shall here search in vain for any indication of the eruption, on such parts as the face, hands, or feet. The scalp participates but irregularly; it may exhibit a single, large, and thick crust, very adherent, and covered with hair, or several white patches scarcely raised, but equally tenacious as the last; or it may be entirely free. In the regions, which are thus devoid of any squamous characters, perspiration will frequently be found continuous and excessive, as if to compensate for the more general deficiency of the same secretion elsewhere; nor even in winter is it altogether deficient, particularly in such places as the palm and sole. In one respect, this excess of perspiration proves a boon to the patient; for, in consequence, as will be presently remarked, no feeling of irritation is caused by the disease. The latter is an inconvenience, but no more; nor is it much influenced by those changes of climate or weather, which otherwise aggravate the complaint. Again, partial ichthyosis is sometimes very restricted in its locality; and I well remember the case of a young lady, a patient of the late Mr. Startin, in whom it was entirely con-

fined to the palmar and plantar surfaces. Her father was similarly but less severely affected, while the rest of the family were quite exempt. Still more recently, an example of this rare kind came under my care at the hospital, in a young woman, twenty years of age, who likewise had the complaint limited to the hands.

A case in private, is now under my observation, of an adult patient, who perspires everywhere except in the face, which is always dry, even in the heat of summer, but without any appearance of scales. Of his two children, the younger, aged three years, is an instance of general ichthyosis; while the other, some years older, and also a boy, is entirely free from any indication of it.

From what has now been stated of ichthyosis, it will be seen, that I have used the term in a far more comprehensive sense, than has hitherto been assigned to it. Considered from this point of view, there are few cutaneous disorders which offer so many, and, at the same time, such distinctive degrees of comparison. A malformation of the skin, as I shall hereafter show, rather than an actual disease, it varies from a general roughness of the surface—and this may be scarcely perceptible, or even altogether absent—to a state of the utmost severity, as in the harlequin fœtus; between these two extremes, every connecting link in the chain of development is complete. The occurrence of scales, while they unequivocally demonstrate the affection, and prove with sufficient exactness its extent, is yet altogether subsidiary to another and more important element, viz., the want of moisture or perspiration on the surface; hence we may have, as we frequently find in practice, ichthyosis devoid of any squamous covering, a condition existing from birth, and enduring for life. If I may hazard a conjecture, and something more than

a conjecture, I would say, that whatever type the complaint originally assumes, its tendency is to revert to that state, and most seldom to exceed it. We do not find, for example, the lower varieties of ichthyosis, however modified they may be by external causes, attain a higher or more advanced grade; nor, on the other hand, does partial ichthyosis pass into a more general form. Sometimes in girls who are approaching puberty, an increase in the symptoms of ichthyosis, but still within its former boundary, may be observed: but these are rare exceptions. I may also mention, that scarcely a single case of ichthyosis can I remember, unattended by a peculiar malformation of the external ear, and notably of its lobe, which might be taken as no mean exponent of the degree of the primary disease involving the skin. My attention was first directed to this enquiry, when examining a harlequin foetus, in which no trace of an external ear was observed; and in proceeding through successive deviations from this example, a corresponding diminution in the extent of malformation was seen, until the lowest degree was attained. The only apparent alteration then consisted in the lobe being connected with the adjoining surface of the cheek, of which it seemed to constitute a part. Another result of ichthyosis, constant in the most severe, and often observed in the slighter cases, is a want of mobility in the eyelids, which prevents their complete closure during sleep. In point of fact, patients with ichthyosis literally sleep with their eyes open, the interval between the lids depending on the degree, that the original disease has reached; as a sequence, a certain feeling of dryness is felt in the morning after sleep, which is soon relieved by sponging

the lids with tepid water. In two cases of this kind occurring in early life, which came under my care several years ago, the only time when complete closure could be effected, was when the children were in the bath; the water, by its contact with the lids, softened the skin of the latter, and thus allowed them to meet.

Allusion has been made to the complication of ichthyosis with prurigo; that with eczema will demand a few words. The occurrence of eczema, although sufficiently rare, is chiefly found in ichthyosis, when the latter is partial rather than complete. In some cases, the eczema, if slight, would appear to be accidental; but I am more disposed to conclude that, in the greater number, the complication should be regarded as congenital, returning, as it mostly does, in the course of a few months from the date of the original disorder, and with an indication to harass the patient more or less afterwards. At first, it is the scalp or face which commonly suffers, and then the complaint spreads to other parts, as the neighbourhood of the larger joints; and thus we find that, while the outer aspect of the extremities is uniformly rough and harsh, the inner is studded with eczematous patches. These vary in degree at different periods, but seldom is the skin wholly free. Sometimes the eczema developed in ichthyosis is due to syphilis, which may be delayed in its outward appearance until the second or third year; later than this, no instance has come under my knowledge. They are amongst the most severe in all that concerns the extent of the eruption, and the irritation that accompanies it.

Of the occasional accessories of ichthyosis, for the name of complications they hardly merit, may be enumerated an undue escape of the lachrymal secretion.

Complications.

Accessories.

This happens in those cases in which, from the rigidity and consequent retraction of the skin of the cheek, the lower lid is everted; the eye becomes suffused, and soon the tears overflow the face, thus creating an annoyance, which the patient is powerless to control or prevent. Another and a more common attendant, inasmuch as it generally selects the milder examples, is the occurrence of coryza, and with it an inflamed condition of the Schneiderian membrane at its lower part. The coryza is often provoked with ease, and may continue unchecked throughout the winter months; in some instances, the patient constantly suffers from a congested state of the throat, especially about and around the tonsils; or an undue heat is felt in the auditory canal; or small ulcers are formed on the mucous membrane of the gums. In a previous page, I have referred to an excessive increase of the perspiration, particularly on the palmar and plantar surfaces in partial ichthyosis. This, whether on the above regions or the face or neck, is, to say the least, a discomfort, but on the feet it is sometimes associated with an offensive odour from these parts, which constant care and cleanliness can alone mitigate; it is always aggravated by warmth, or whatever promotes the action of the sudoriparous glands. Again, the subjects of ichthyosis, it may be observed, are, more than others, liable to bronchitis or catarrh, or they suffer habitually from cold, to a far greater degree than ordinary persons; hence the frequency, in such patients, of chilblains on the hands or feet, upon the occasion of frosty or severe weather. Still, where no apparent outlet is afforded on any portion of the surface, the extreme of heat is yet more dreaded in certain instances, although they

fortunately constitute a minority. It is not mere exposure to the rays of the sun, or any kind of extraneous warmth, which causes this burning sensation in the skin, once forcibly expressed to me by a patient upwards of seventy years of age, who had general ichthyosis. The heat of summer is alone enough to induce it.

There is a species of so-called ichthyosis, to which the name of *spurious* has been given by some writers. It is a product of the sebaceous glands, and has no connection at all with that under review. In another kind, *ichthyosis cornea*, the name would seem to have originated from a tendency sometimes witnessed in this affection, to produce excrescences on various parts of the affected surface, which, by their increase, became developed into horns.

Spurious
ichthyosis.

An opportunity has lately been afforded me of observing a rare example of this disease, which comprised the greater part of the skin covering the right clavicle, the elbows, knees, and ankles; also the backs of the hands, including the digits. In these localities, the skin presented a smooth, almost glistening appearance, and was, moreover, of a yellowish hue. It had lost its natural elasticity, and felt indurated to the touch, like a piece of cartilage, from the subcutaneous tissue being likewise involved, and adherent above. There was contraction, in the semi-flexed position, of all the fingers—more evident on the right hand than the left, from its longer duration, and evidently produced by the same cause. A similar state existed on the toes.

The patient I refer to was under the care of the late Mr. Startin, whom she consulted for the first time, June 1870. Her age was forty-seven. The catamenia ceased two years ago, when the above complaint commenced, which it did on the chest; and since then it has appeared in other and distant parts. There is no lack of perspiration generally; but she suffers much from exposure to cold, particularly in the extremities. Pain is felt chiefly over the knuckles and in the feet, especially along the plantar fascia; and so severe has it become of late, as to occasion much difficulty in walking. There is no evidence of the affection being at all hereditary.

Ichthyosis
cornea or
sclerema.

The extreme infrequency of this form of skin-disease, described by French writers as *sclerema*, must plead my excuse for thus placing it on record. So nearly does it correspond in many essential points to a similar case described by Willan in his work, page 209, that there is no difficulty in recognising it as an instance of what this close observer has been pleased to call ichthyosis cornea. In all that concerns, however, its more obvious characters, as well as in the free perspiration of the surface generally, and the development of the complaint at a so-called critical period of life, it is distinct from that class which, in its several grades, I have ventured to express under the common term ichthyosis. Indeed, its sole claim to the latter designation rests on the horny state of the integument, which has already occasioned permanent flexure of the digits, and threatens, unless checked, to lead to more extensive results.¹

Condition
of the
urine in
ichthyosis.

The total arrest of all sensible perspiration in general ichthyosis, and its partial secretion only, in some of the modified forms of the complaint, offer an interesting subject for investigation, with respect to

¹ In the same category as spurious ichthyosis and ichthyosis cornea should be ranked ichthyosis linguæ, which has lately formed the subject of an admirable paper by Mr. Fairlie Clark. The name, as applied to the tongue, is, I think, unfortunate in all that relates to its origin, progress, and issue, and is wholly separate from ichthyosis properly so called. The latter is *always congenital*, which ichthyosis linguæ *never is*. The disease in question is more allied to a warty growth, and sooner or later acquires a malignant character. For further information the reader is referred to the above paper, read before the Medico-Chirurgical Society in March 1874; and also to an account of the same complaint by Dr. M. Debove, of Paris, published in 1873, under the name of *Psoriasis buccal*.

the state of the urine. A more extended series of experiments is, indeed, required to complete this part of my subject; but there can be little doubt that in these affections an increased demand is made upon the kidneys, shown by a great excess in the quantity of urine, which is, moreover, of a low specific gravity, and usually of the palest yellow colour. Its reaction is but slightly acid, and this may account for its naturally becoming neutral or alkaline, when kept for even a few hours. These characteristics were well exhibited in two cases of ichthyosis, in which I carefully determined the amount of urine passed in 24 hours, for several days in succession. In a third and excellent example of ichthyosis, the subject was a boy aged 11 years, height 52 inches, weight $57\frac{3}{4}$ lbs., brother to the girl whose case is mentioned at the beginning of the present chapter. He came under the care of Mr. H. Lee, in St. George's Hospital, suffering from a small psoas abscess, following angular curvature of the spine. The scales were numerous, and entirely enveloped the trunk; on the head, the hair was scanty, thin, and in several places altogether deficient; not only was every portion of the face, neck, and scalp thus invaded, but the same morbid state extended along the external auditory meatus. The lobe of each ear was malformed, being attached to the corresponding cheek. The upper eyelashes were wanting, and the exposed mucous membrane of the lids constituted a thick fold, which, in the lower, caused the tears to escape. Exactly the same condition as on the trunk applied to the upper and lower extremities, in the former reaching almost to the wrist, and the latter leaving only the soles

actually free from scales. The upper lip was retracted, and the gums and teeth left unprotected. There were eleven children in the family, of whom five were affected with ichthyosis, viz., two girls and three boys. The two younger children and the three elder, equally with the parents, showed no appearance of the disease, which in this instance could not be traced to a preceding generation or a collateral branch. The patient was in otherwise good health, and enjoyed his food, which consisted of ordinary diet, with a pint of porter daily. The only medicine that he took was a tea-spoonful of cod-liver oil twice a day. The case being a typical one, I made the following analysis of the urine :—

	Quantity in 24 hours, in cc.	Specific Gravity	Urea in 100 cc.	Total Urea in 24 hours	Sul. Acid in 100 cc.	Total Sul. Acid in 24 hours	Phos. Acid in 100 cc.	Total Phos. Acid in 24 hours
1866. April				Grmsm.		Grmsm.		
9th—10th	1,230	1015·8	1·7	20·91	·109	1·34	—	—
10th—11th	1,170	1017·2	1·8	21·06	·127	1·48	—	—
11th—12th	1,070	1016·0	1·8	19·26	·109	1·16	·14	1·498
12th—13th	950	1017·2	2·0	19·00	·15	1·65	·17	1·615
13th—14th	1,380	1010·8	1·5	19·32	·085	1·18	·09	1·242
16th—17th	1,340	1013·4	1·5	20·1	·14	1·87	·14	1·876
17th—18th	1,340	1013·8	1·6	21·4	·09	1·20	·14	1·876
18th—19th	1,600	1013·2	No analysis		·101	1·62	·12	1·92

Which, computed for eight days, gives the following daily average :—

Quantity in 24 hours	Specific Gravity	Urea in 100 cc.	Total Urea in 24 hours	Sul. Acid in 100 cc.	Total Sul. Acid in 24 hours	Phos. Acid in 100 cc.	Total Phos. Acid in 24 hours
1,260	1014·7	1·7	20·8	·114	1·44	·13	1·671

If these results be compared with the undermentioned analyses, in which the urine was examined for

not less than six days (and as regards quantity in (a) and (b) for fourteen), it will be found that in—

	Quantity in 24 hours in cc.	Specific Gravity	Urea in 100 cc.	Total Urea in 24 hours	Sul. Acid in 100 cc.	Total Sul. Acid in 24 hours	Phos. Acid in 100 cc.	Total Phos. Acid in 24 hours
				Grammes		Gramme		
(a)	421	1024·4	3·4	15·4	·204	·871	·13	·524
(b)	575	1027·0	3·9	22·2	·248	1·34	·22	1·248
(c)	628	1022·2	3·2	19·7	·192	1·137	·24	1·487

These cases (a, b, and c) refer to convalescent patients, of nearly the same age, viz., ten years each; their respective heights being 46, 48, and 48½ inches; and their weights, 48½, 50, and 49 lbs. Although confined to the wards of the Hospital for Sick Children, under my friend Mr. Holmes, they were at the time of examination in good health. The diet was ‘meat’ and cocoa; no medicines were given.

The chief noticeable point in the ichthyosis example, after allowing for a proportional difference in age, weight, and height, is the large increase in the actual bulk of urine, being considerably more than twice as much as that passed by (a) and (b), and nearly double that of (c). The specific gravity, determined on each occasion by weight, is also, in a corresponding manner, low. Notwithstanding the small rate per cent. of urea, the absolute amount in 24 hours is little altered in ichthyosis; and this is somewhat remarkable, when we consider that the skin, as a secreting organ, is reduced to the lowest possible limit, in the disease. This fact militates against the usually received theory, of the elimination by the skin, of urea. In determining the latter substance, as well as the phosphoric acid, I have adopted the volu-

metrical method, where 1 cc. = .01 of uræa, and a similar equation applies to PO_5 . The sulphuric acid has been obtained in every case by the more tedious but safer process of precipitating by baryta, and finally by weight: the quantity is hardly if at all affected, or phosphoric acid, by ichthyosis. No hippuric acid crystals were detected by examination with the microscope.¹

Morbid
anatomy.

Of much interest are the results afforded by microscopical inquiry, relating to the actual condition of the integument in ichthyosis, since they exhibit the extent, to which its several structures are involved, and thus explain many of the symptoms, as they occur. The fibrous tissue of the cutis is always dense and hypertrophied, and this in proportion to the severity of the disease; the cuticle is likewise thickened, frequently exfoliated, and rendered nearly black by transmitted light. In the milder cases of ichthyosis, I have found the sudoriparous glands diminished in size, and their ducts greatly thickened; the secreting portion of the sebaceous glands is also degenerated, and often surrounded by oil globules, some of which contain solid matter; the corresponding duct is likewise hypertrophied. In complete ichthyosis, the sudoriparous glands are still more imperfect, and the sebaceous wanting altogether.

Prognosis.

The prognosis of ichthyosis, in its several varieties, is unfavourable as regards complete or permanent relief; but the complaint is, nevertheless, in most instances

¹ Schlosberger is said to have demonstrated the presence of hippuric acid in the scales of ichthyosis (Neubauer on the *Urine*, p. 34). None, however, could be discovered in the above case of ichthyosis after a most careful analysis by Dr. Marcet.

greatly amenable to treatment. After a time, the skin becomes smooth, and scales are no longer renewed, a source of no slight satisfaction to the patient. The malformation, however, in any case, remains, and with it a disposition to the return of the disease, which may be invoked by many causes, such as exposure to atmospheric changes, or the neglect of precautionary measures; and it is to the non-fulfilment of the required conditions, in so far as they relate to the general health, and the state of the skin, that a relapse is mostly attributable. I have known ichthyosis successively relieved, and to such a degree, by the warmth of summer alone, that during the season it could scarcely be said to exist; but with the approach of winter, its true character never failed to be declared. In this class, which may be said to be restricted to the less serious cases, and only a particular section of them, there is no doubt that a removal of the patient to a more genial climate than our own would be followed, for the time at least, by a tolerable exemption from his complaint. I have under observation, a boy aged eleven years, the subject of ichthyosis, who is a singular exception to a very general rule in this disease, inasmuch as in the summer months he derives the greatest benefit from a residence at the seaside, or even from bathing in the sea. In other cases, even of partial ichthyosis, the alternations of heat and cold would appear to have little influence over the complaint, unless the weather proved exceptionally severe, when an increase of the local symptoms might be expected. Apart from the occasional complications or accessories already adverted to, patients with ichthyosis possess quite an average share of good health, and in other respects are active and strong.

There is no reason to believe, and my experience is quite opposed to the idea, that the complaint is connected with any scrofulous or syphilitic taint, or owes its origin to any particular diathesis. The first example of ichthyosis, recorded at the commencement of this chapter, is a good instance of how much may be gained by remedial measures properly applied: as the patient was enabled to return to her ordinary duties, as a domestic servant, with comparative comfort as regards the cutaneous disorder, thus kept in abeyance. In the slighter cases in which, although general, the limits of pityriasis are hardly exceeded, much, and at the same time, more lasting benefit will likewise accrue from remedial agency; and the same applies with equal if not greater force, to ichthyosis, in its partial form. In that kind, which is distinguished by the extent and thinness of the scales, and in which the surface partakes, more or less, of a reddish tinge, the probability of even marked improvement, in my experience, is remote. In these, the severity of the disease is less determined by the size and thickness of the cuticular products, than by the general completeness of the complaint, and of this we have sufficient evidence in the exposed mucous lining of the lower lids and the lips, as well as in the malformation of the external ear. There is also a great liability to exacerbations and remissions, a sense of aching and burning generally preceding an attack. The fingers are then apt to contract in the flexed position, and likewise the elbows and the knees. As a result, transverse cracks speedily arise over the phalangeal articulations, or fissures occur at the side of the elbow, or the neck, or on the loins. While this condition lasts, the patient's distress may be imagined

from the very helplessness it entails ; and I am acquainted with such a case, in which, during an attack, the patient cannot move in bed, or feed herself without assistance.

Most writers have dwelt on the greater frequency of ichthyosis in the male, as compared with the female. Frequency
between
the sexes. My own observations, derived from no inconsiderable number of cases, do not support the opinion, that ichthyosis is a special complaint of either sex. Instances have come under my notice of ichthyosis, invading the male children only, in one family, and in another, the female ; of its affecting both sexes, the offspring of the same parents ; and again of its appearing in a single member alone. The hereditary nature of ichthyosis in some examples is unquestionable, and I am acquainted with one, in which there was evident proof of the direct transmission of this affection through six successive generations. Instead of proceeding in an immediate line, it will sometimes show itself in a distant branch of the family, and cases are not rare, in which, as far as can be ascertained, no claims of lineage are allowed.

The tenor of these remarks, as well as those contained in the preceding pages, will best supply an answer to a question sometimes put, whether a patient with ichthyosis should marry. In so far as relates to the individual more immediately concerned, it has been shown that ichthyosis is not contagious, nor, I may add, does it tend to shorten life ; and I need not recapitulate what has just been said, as to the prognosis of the disease, in the varied form in which it occurs. As regards another and scarcely less important point, viz., the risk of its transmission to the children, I would observe, that where clear evidence exists of its having attacked

several generations in succession, the chance of escape to any future offspring is so much the less, than when the complaint appears only by collateral descent, or even in the direct line with occasional gaps. In the above case, which comprised six generations, it seemed to decrease in severity in proportion to its furthest descent, and I have met with others, evincing a similar disposition. In these there is a probability of the final exhaustion, so to speak, of the disorder; again, in ichthyosis limited to the hands and feet, the same tendency to repeat itself in like localities is often witnessed in the immediate descendants. On the other hand, many instances might be cited, inclining to an opposite conclusion, and the example briefly mentioned at page 69 may be cited in support of this view. From such conflicting results, it is impossible, in any given case, to pronounce, with an approach to correctness, as to the hereditary influence of ichthyosis upon the issue, male or female, for both sexes appear equally liable; and the presumption is altogether in favour of one or more of the progeny becoming affected, although its degree can only be determined by the actual event. Happily, and as a general rule, ichthyosis is far more frequent, either as a partial complaint, or, if more complete, in a form which yields to remedies, than as an aggravated affection, a source of constant distress to the sufferer. On this latter hypothesis, few would sanction or countenance marriage; and on the former, the decision must wholly rest with the patient, after its hereditary nature has been fully set forth.

Treatment. In the treatment of ichthyosis, local measures will be found of great service. Our first endeavours should be directed to get rid of the scales, and to render the

skin as far as possible soft and supple. This is best accomplished by the aid of glycerine, a valuable agent in many diseases, as was first pointed out by Mr. Startin, who introduced it to the notice of the profession many years back. Unlike other greasy or fatty compounds, it is readily miscible with water; and hence its efficacy in removing, or at least in diminishing, the excessive dryness of the skin in ichthyosis. It may be turned to account in several ways. As a bath, in the proportion of six to eight ounces to thirty gallons of water, and at a temperature of 96 to 98 deg., it will prove most agreeable, and may be resorted to twice or thrice a week. Although it signifies little, at what time of the day the bath is employed, I generally advise its use in the afternoon, or at bed time, as at the latter period a good night's rest is mostly secured; and in winter particularly, with proper precautions, the patient runs small risk of catching cold afterwards. The high price of glycerine is, however, often a bar to its use in this manner, from the frequency of repetition it entails; it will then be enough for the patient, after taking an ordinary warm bath, to sponge the whole surface with a quart or more of warm water, containing two or three ounces of glycerine, or he may use the latter undiluted, while the skin is wet. This last is not only an economical mode of employing glycerine, but it is one of great service, as thereby much of its greasy character is lost, while the skin retains its pliability for several hours. In many cases, the bath is impracticable; in such, the patient should be directed to grease the surface with an ointment containing camphor and glycerine, ten grains of one and sixty minims of the other, to each ounce of lard. This is to be

applied with a fold of flannel, and any excess removed by the same means. Sometimes, in lieu of an ointment, castor oil is preferred, while any objection to its odour is readily obviated, by the addition of a few drops of oil of bergamot or bitter almonds.

This comprises all I have to say, as regards local remedies. When the scales are very thick, and not readily removed with friction or soaking with warm water, a piece of pumice stone will often assist in detaching them ; or the use, from time to time, of glass cloth, such as is employed for polishing. The thickness is most marked in ichthyosis of the palms of the hands, or when it is on the foot or around the heel.

As to the general health, tonics, especially those containing steel, will be commonly indicated, and none are better than the sulphate or the perchloride of iron. These it is, in most cases, advisable to combine with an aperient, from the natural tendency they possess to produce constipation. The diet should be nutritive, consisting largely of animal food, and at the same time plain.

CHAPTER V.

LICHEN.

THE distinctive characters of the papular eruptions, first recognised and classified by Willan, have been acknowledged by most subsequent writers on diseases of the skin. They comprise *lichen* and *prurigo*; and include, under the former, *strophulus* or gum-rash. General characters.

As a rule, the papular eruptions are characterised by pruritus, and by an elevated state of the papules of the skin, which undergo no further change. They are devoid of any kind of moisture, and in no way contagious.

Several varieties are assigned to lichen, which, as an ordinary eruption, is met with in a simple or in a chronic state; the terms lichen simplex and lichen agrius being employed respectively to designate these two classes. The other, but less common, forms of lichen, as lichen tropicus, lichen urticatus, lichen circumscriptus, lichen pilaris, and lichen lividus, may be said to depend rather for their nomenclature upon some such causes as situation, colour, or climate. Two kinds described by Hebra remain to be mentioned, lichen scrofulosus and lichen ruber. Varieties.

Lichen is generally characterised by successive developments of fresh papules, although Duparc and Alibert relate instances of the eruption being simul- Course.

taneous and complete. It spreads gradually, but not often by continuity of surface. Thus originating in the lower, it may then proceed to the upper extremities, and afterwards appear on the chest and loins, or *vice versa*; or, on the other hand, it may be quite local. The pimples of lichen are solid and firm, seldom larger than a millet-seed, and the intermediate tissue is of its natural colour; but the latter in the chronic stage of the disease, is disposed to become thickened and hypertrophied, and of a darker or yellowish-brown tint.

Lichen most frequently occurs in early or adult life, and men are more liable to it than women. Rayet speaks of lichen as being now and then hereditary, and Devergie lends his authority in support of this statement; but its rarity as an hereditary complaint, properly so called, may be inferred from the latter author, who, notwithstanding his large experience, has been able to record it in only ten cases. Without entering into further discussion on this point, it may nevertheless be affirmed, that some individuals are much predisposed to it, and in them the disease is both obstinate, and very liable to relapse.

Pruritus.

There is no one character more constant in the papular class than pruritus; and although this may vary in degree in different cases, yet, where it has been excessive, it will often linger after the eruption has entirely disappeared. Sometimes it assumes a periodic or an intermittent form, recurring at regular intervals; or, what more frequently happens, it returns on the least error in diet, or from exposure, or excitement. The amount of pruritus bears, however, no proportion to the number or development of the papules.

Causes.

Since there is hardly any period of life at which

lichen may not occur, its causes are numerous. Whatever tends to accelerate the capillary circulation may be ranked as a predisposing agent. Cases of this kind, which are so common in the south of Europe, and still more in the East, under the name of 'prickly heat,' are entirely due to a high range of temperature ; or lichen may result from artificial causes, and is a frequent complaint in persons exposed to alternations of heat and cold, particularly if dust or any similar irritant be present. It will sometimes appear on the legs from the friction occasioned by the use of worsted stockings, or on the forehead from the pressure of a tight hat. Severe mental emotion has also been known to give rise to it.

The papular eruptions will sometimes co-exist with other diseases of the skin, as scabies, eczema, and impetigo, and in debilitated subjects with ecthyma ; or may succeed to them. It is not unfrequent to find in some hereditary affection, as in any of the squamous order, one member of a family the subject of psoriasis, another of lichen ; and the difficulty of diagnosis is greatly increased, when these affections are thus complicated. It is important, however, to reflect that lichen itself contains no vesicles, nor do its papules acquire a pustular character, conditions which are constantly observed in eczema and scabies ; and moreover, the outer aspect of the limbs and the loins and the neck are the localities generally selected by those we are now considering. Certain cases of chronic psoriasis may resemble lichen circumscriptus ; but the raised circumference of the former, and its freedom, in most cases, from itching, will seldom fail to enable us to distinguish between them.

Diagnosis.

Lichen commonly terminates in resolution, with or without cuticular desquamation. In some exceptional cases, superficial ulcerations follow, and are tedious in healing.

Strophulus.

Varieties of Lichen.—Strophulus is a disease of infancy, and occurs shortly after birth, or about the period of dentition. In some cases, the eruption is of a vivid red colour, interspersed with erythematous patches, or it approaches the natural colour of the skin, or what is rare, the papules are perfectly white. This last variety has been called lichen *albicans*, while to the first, has been given the name of lichen *inter-tinctus*. These varieties of strophulus, which may be intermingled one with the other, are generally to be found on the face, neck, and hands; or they may spread from these parts to the trunk. Strophulus is a trivial complaint, unattended by danger, and seldom lasts beyond a few days. *Lichen simplex* is also a mild form of the disease, and runs an average course of three or four weeks. Some febrile disturbance occasionally accompanies it. The eruption is indicated by a number of small red pimples, occupying a like situation to the last, and followed by a sensation of itching and tingling. After some days, the pimples fade, or are followed by a new crop, and sometimes by a slight desquamation.

L. agrius.

Lichen agrius is of a severer, as well as a more chronic kind than the last, to which it sometimes succeeds, or it may commence as an original affection. I shall take it as the type of the rest. The eruption consists of small florid conical pimples, irregularly scattered over the face, back, or outer aspect of the extremities. To the touch, the pimples are hard,

scarcely exceeding a pin's head in size, and mostly distinct. They may be found either in clusters, or more widely distributed over the body. On passing the hand over the part, a peculiar, rough sensation is perceived, which has been not inaptly compared to that of a nutmeg-grater. When on the face, the integument is usually more or less swollen, and considerable disfigurement ensues. It is seldom that any constitutional disturbance ushers in an attack, and the general health remains unaffected. The pruritus is often so great, that the patient cannot refrain from scratching; and hence small dark crusts of dry blood are to be seen on the summits of the papules, or a slight serous fluid exudes from their forcible abrasion, which may constitute small thin crusts, and might at first sight be mistaken for eczema. The complaint is very variable in its duration, and likely to become protracted in those, who have previously suffered from its effects.

Lichen will sometimes appear in children in the shape of large irregular patches, generally on the limbs, but leaving free the feet and hands. The colour is that of a perfect red, which vanishes for the moment under pressure. The surface is nearly smooth, but we may discover, near the edge of some portion of the patch, a quantity of small scattered papules. The latter, which show the eruption in an early stage, will also be found in other parts, where the disease is beginning to spread. A slight exfoliation of the cuticle is also usually seen on the larger patches. In early life, a species of lichen, only of a lighter kind, and perfectly devoid of redness, will be occasionally developed on those parts which are exposed to the sun, as the face, particularly the fore-

head and cheeks, and is accompanied by considerable pruritus.

L. tropicus. *Lichen tropicus*, or 'prickly heat,' is common in most warm countries. Indeed, few who have resided for any length of time in tropical regions, escape from this annoying complaint. It generally shows itself as the hot season sets in, and continues with greater or less interruption until the approach of the rains, or the advent of cooler weather. The chest, back, and extremities are attacked together or successively. The disease does not differ from that observed in lichen agrius, and sometimes is scarcely apparent; it is always increased by eating, and generally becomes aggravated towards night. A cold bath may afford temporary relief, but the itching soon returns, and without abatement; it is less felt in the morning than at any other period of the day, and sometimes vanishes altogether for a time. The eruption is most severe, where the extreme of heat is found. It fell to my lot to witness many instances of this kind of lichen, when doing duty as an assistant-surgeon in Upper Scinde, and on board one of the late Hon. East India Company's vessels of war in the Red Sea and Persian Gulf, climates amongst the hottest in the globe. 'Prickly heat,' it may be added, occurs at that time of the year when sickness is least prevalent, and is usually associated with excellent health. The supposed danger of repelling suddenly the eruption by plunging into cold water has no existence. Sailors, of all classes of men, from their habits, or the exposure to which they are frequently subjected, as when engaged on survey duty, are most liable to 'prickly heat;' and yet they continually bathe in the

sea in this state, without any ill consequences resulting therefrom.

Lichen urticatus is frequently found in children during the warm weather, and often makes its first appearance at the time of teething. Sometimes it happens at a later period, particularly where the skin is fair, but whatever the age of its occurrence, it is an eminently relapsing complaint. It is distinguished from ordinary lichen by the addition of certain elevations on the surface, which appear exactly as if the patient had been stung by a nettle or an insect. They appear generally in the evening, when the irritation is greatest, and disappear or become pale in the early morn; in many cases, they are present more or less throughout the day, and are always aggravated by washing, particularly if soap be employed. Their origin is successive, and as they vanish, no further trace of them is left. In other examples there may be noticed, among the early symptoms, a number of red spots, distinct, hard, and raised at their centre; in circumference they equal, on the average, a threepenny piece. They may occur in any region, and generally attain their greatest size on the trunk. In the course of a few hours, there is developed towards the centre of these spots a whitish elevation or wheal, similar to that just described; and it often contains a watery secretion, as proved by pricking it with a needle. Owing to the thickness of its walls, it seldom bursts like the vesicles of herpes or eczema. Sometimes the redness, which is always more marked at night, but abates towards morning, leaves the elevations without any discoloured margin, and in favourable examples the complaint disappears altogether; but this is not its customary ter-

L. urticatus.

mination, more frequently it subsides only to recur. The eruption is much disposed to lapse into a chronic state, and successive crops of lichen, interspersed with this peculiar condition of the skin, will finally spread over the entire frame. Should it continue, we sometimes find the most prominent part of the swellings assume a pustular character; and these, when situated on the scalp, resemble impetigo in no slight degree. On the hands and soles of the feet they bear a great similitude to scabies; but the former disease is most marked in early life, and it is not contagious. Lichen urticatus usually leaves no scar. I have, however, seen instances where the eruption, developed on the cheeks, and about the period of puberty, has resulted in numerous small whitish pits or depressions, which are slow to disappear; the same will sometimes occur on the lobes of the ears or the end of the nose. So much irritation does this form of lichen occasion in early life, that the child will use every endeavour to mitigate it by scratching, and hence, as in the agrius variety, the apices of many of the elevations are capped with blood. There is a variety of lichen I have sometimes met with in children, where the elevations are at first of a reddish colour, and as they fade leave brown or copper-coloured stains on the skin, which are apt to remain a long time. They are sometimes so numerous as to cover the greater portion of the face, trunk, and extremities, and thus give a spotted appearance to the surface. The eruption might be mistaken for constitutional syphilis, with which it has nothing in common except the colour, and the general health is wholly unaffected.

L. pilaris. *Lichen pilaris*, so called from its implicating the hairs, which pierce the papules in their centre, is rarely

witnessed. The hair-follicle becomes filled with epithelium and its *débris*, and a number of small acuminate papulæ are observed, having each on its apex a single hair. It is chiefly developed on those parts which are covered with soft fine hair, as the neck or chest. I had the opportunity of seeing, some months ago, a remarkable instance of this kind among the out-patients at the Skin Hospital, in a boy, in whom the disease was mostly seen on the back of the neck, and appeared not unlike the small rough eminences on the surface of an echinus. In this case, the loins and shoulders were also covered with lichen in its ordinary form.

Lichen lividus, like the preceding, is also uncommon. Mr. Startin has noticed it about once in 1,800 cases, and Rayer relates having only seen it twice. It is almost always united with broken-down or feeble health, and is generally seated on the extremities. The spots are of a purple colour, intermingled with petechiæ.

Lichen circumscriptus is the name given to the disease, when it forms a circumscribed patch, having a defined border, or is represented by several small patches. It is not infrequent on the hands, or the popliteal space, or the nape of the neck. Its colour is usually of a dark red. In some instances, it is prolonged for years by the outbreak of fresh spots, which, like those of psoriasis, enlarge at the expense of their circumference, and decline at the centre; when chronic the papules are large, closely aggregated, and often of a purplish red. Much irritation is produced, if the patient becomes heated.

Lichen is in many instances the result of syphilis, congenital or acquired. In the former class, we fre-

L. lividus.

L. circumscriptus.

L. syphiliticus.

quently meet with it in infants, as an eruption scattered over the greater part of the body, and particularly present about the genital organs. In other localities the papules are large, flat, and smooth, and might be confounded with herpes, except that they want the true vesicular element of the latter. Further signs of constitutional syphilis are mostly apparent, and at this age the itching is very great. Syphilitic lichen in older patients offers in general a different set of symptoms. Thus the papules present a coppery colour, and there is an absence of irritation, or at least it is not severe. The tendency of the complaint is to become tubercular; and in addition to, or in place of its more usual situations, syphilitic lichen is frequently observed on the forehead, and not seldom on the soles of the feet. The tongue is also sometimes fissured, and what may often be seen, characteristic of this variety, are a number of small pits or cicatrices, in most cases on the face only, the consequence of ulceration following the eruption, not unlike those produced by variola. Syphilitic lichen, in common with other diseases of the skin dependent upon syphilis, can scarcely be said to have any special character, so much does it deviate from the real type of the original complaint.

Treatment. The treatment of simple lichen may be summed up in a few words. The same will also apply to tropical or any less severe kind of lichen. It consists in proper attention to the bowels, and in the avoidance of any exciting cause. In early life, it is too often the practice of the mother to cram the child with milk or indigestible food, or to overload it with clothes. Flannel will sometimes irritate the skin, and so even will soap; or the child may be insufficiently dried after washing.

I need not enter into further detail, or suggest the obvious mode of dealing with these cases. As far as the medical treatment is concerned, it will be enough to administer a few grains of rhubarb and soda in the first instance, to be followed by a light tonic. When lichen occurs in the acute stage, the use of purgatives, as the sulphate and carbonate of magnesia, should be used; and, as an external application, either-goulard lotion, or one of a weak solution of creosote and the bichloride of mercury; one grain of the latter to an ounce of water. The lotio carbonis is also of considerable benefit in these cases. After the irritation has subsided—or, in chronic lichen, as lichen agrius—small doses of mercury should be given; and indeed, in the greater number of papular complaints, this mineral will generally be required.

In the lichen urticatus of children the same means may be adopted, regard being had to the age. Thus, to a patient of three years old, the carbon lotion should be diluted with an equal amount or more of water, and the mercury diminished by two-thirds for a dose. When the eruption is confined to a few spots, or takes place in a weakly subject, quinine or iron may be prescribed with advantage; the local treatment to remain the same. The hydro-chlorate of ammonia, used externally, in the proportion of one scruple of the powder to an ounce of cerate, is a remedy from which in this variety of lichen great benefit is derived. Its influence in lessening irritation is frequently very apparent. As an ointment in the above form, it should be applied morning and evening. Provided proper attention be given, the same remedy may be employed as a lotion; but in this case it is necessary that the affected surface be constantly

covered with a wetted rag, without the addition of oiled silk, which only heats the part. The tincture of aconite, in certain cases, is highly spoken of by Neligan ; and, as a local measure, he recommends conium, in the following form :—One drachm of succus conii, half a drachm of glycerine, and a grain of soda, to an ounce of elder-flower water.

Baths.

Baths are highly serviceable in the papular eruptions ; they lessen the irritability so frequent in this class of diseases. The patient should, however, be warned not to use them at too high a temperature ; indeed, in all cases a tepid bath is to be preferred at the commencement ; and, when he becomes accustomed to its use, he may remain in it for a longer period than at first. If the irritation be very great, and in the later stages of the disease, when the skin is still rough and dry, a starch or gelatinous bath will often afford considerable comfort. An alkaline bath is occasionally beneficial ; and, in confirmed cases, the sulphur springs of St. Sauveur, Louesche, or Aix-la-Chapelle, may be tried.

L. scrofulosus.

Two varieties of lichen specially mentioned by Hebra, and described by him with much precision and minuteness, now claim our attention. The first, or *lichen scrofulosus*, is a constant companion of caries, lupus, and tuberculosis. It is characterised by pimples of the size of ordinary lichen, and of the same colour as the epidermis, or pale yellow, or brownish red. Some degree of desquamation is often met with in this variety, which, as it is unaccompanied by pruritus, does not, therefore, show the little scabs of dry blood produced by excoriation. The papules, in short, remain unaltered. Unlike any other species of lichen, this variety is mostly seen on the trunk, abdomen, breast, and loins,

and seldom on the extremities. In progress it is very slow, and generally remains unheeded by the patient, until the disease reaches the limbs or the face; or unless other symptoms occur in the papules, as their attaining the size of a lentil, and assuming a bluish red colour; or containing, like acne, a small quantity of pus; or drying up, leaving a circular dark stain. The skin between the papules is generally scurfy, or covered with incipient scales like bran, and dull-looking.

The disease is always connected with enlargement of the lymphatic glands. Hebra states it to be peculiar to the male sex. Not one instance does he record of its affecting the female; nor, in so far as his observations extend, is the complaint influenced by season or occupation.

Still more remarkable in its symptoms and termination, is *lichen ruber*, noticed, I believe, by L. ruber. Hebra alone, and distinguished, whence the name, by the dark red colour of its papules. Observing throughout their course the usual size, the papules are at first scattered or separated, and covered with small thin scales, which cause slight itching, but not sufficient to lead to excoriation or scabbing. The intervals left unoccupied by the former pimples are soon dotted with a new group; and, as these become more thickly developed, large red plots are seen covered, as I have just said, with numerous fine scales. The movements of the muscles become considerably impeded, particularly those of the hands and feet. The fingers are kept in a semiflexed position, and present painful cracks. The nails generally may also suffer. They are thickened, do not reach their usual length, and are apt to break. In colour, they approach a yellowish brown.

Course.

The course of lichen ruber is progressively bad in the greater number of instances. As the disease advances, which it generally does, the patient becomes emaciated, and at length falls into a state of marasmus, and dies. Fourteen cases form the entire number mentioned by Hebra, one of which occurred in a woman; and in one instance only, was the disease arrested.

Treatment.

In the treatment of *scrofulous lichen*, which appears between the ages of 15 and 25 years, cod-liver oil has proved an excellent agent, and the only one recommended by Hebra. It should be given, however, in half-ounce doses twice a day, for a less quantity proves of no benefit. He also advises its external application, and directs that the patient should also wear flannel or woollen clothes. For the relief of *red lichen*, Hebra places most reliance on arsenic. The reader is referred, for further information, to Hebra's article in Virchow's *Handbuch der Speciellen Pathologie und Therapie*, Bd. iii., Lief 2.

CHAPTER VI.

PRURIGO.

THE remarks made in the last chapter on the subject of lichen, will so nearly apply to *prurigo*, that I have little to add to it of importance. Bearing in mind the papular origin of this affection and its attendant itching, the frequent existence of numerous minute crusts of dried blood on the surface, and its non-contagious element, we shall have little difficulty in determining the true nature of the disease. It should be remembered, however, that, while other disorders of the skin are distinguished by some abnormal state of its structure, there is this peculiarity in *prurigo*, that it often exhibits no apparent change of any kind; and the complaint is rendered conspicuous by the absence, rather than by the presence of any morbid phenomena, that the closest scrutiny can detect.

General
characters.

The papules of *prurigo* are scattered, isolated and discreet, with no disposition to regularity. Their development is generally slow and successive, although instances to the contrary, as in lichen, are mentioned by Duparc. They are commonly described as larger and flatter than those of lichen, but such a statement is not strictly correct. Certain it is they are often minute, and frequently absent altogether.

The situation of this eruption is similar to that of Situation.

lichen. Sometimes it will extend over the entire body, although attacking mainly the loins, and the limbs along their outer aspect. Even when general it usually leaves free the hands, feet, and face; and in many instances, although apparent enough elsewhere, does not reach beyond the elbows or below the knees; and is limited at the upper part of the neck. Cases, however, are mentioned by Mr. Startin in which prurigo has been so complete, that the scalp, nose, and ears have not escaped.

I have at present a case in private, in which prurigo is confined to the scalp, and at no period has it affected any other part; the surface is apparently quite natural, and there is no loss of hair, but the itching is excessive, and hardly less by night than by day.

Pruritus.

The pruritus, characteristic of prurigo, is liable to remissions, which observe no regularity in the order of their occurrence; it may and frequently does disappear for several hours, or even days. Often a relapse is induced by mental anxiety, or an error in some article of food, and is intensified by friction of the skin. It is when the patient is warm, particularly at night, that the paroxysm of itching is most felt, and he thus becomes deprived of sufficient sleep. To mitigate the irritation, he is unable to refrain from scratching himself, and hence the red linear markings and little dark scabs of blood, so diagnostic of the disease, and which are produced by the apices of the papules becoming abraded. After the complaint has subsided, there still remains, in many cases, a disposition to pruritus, which only gradually disappears.

Complications.

Prurigo often exists with some other complaint of the skin, such as lichen, eczema, or scabies, and

sometimes with urticaria or psoriasis. From lichen it differs in being less of a papular affection, and in its greater immunity from constitutional disturbance. Moreover, lichen is generally found at a much earlier age, and lich. urticatus is a disease altogether separate from prurigo. The diagnosis between it and eczema rests on the exemption of prurigo from vesicles or pustules; and in the final stage of eczema, when dry scales alone remain, they are produced in larger quantity; in prurigo a slight desquamation may appear, but this is the result rather of the subjection of the skin to rough usage. Chronic urticaria resembles prurigo, when the latter is destitute of papules, but in urticaria the complaint occurs either as white elevations or swellings, as if the part had been stung by a nettle; or else, if these elevations have vanished, and the fingernail be passed in a longitudinal direction along the surface, a well-marked wheal immediately will rise in its track. Prurigo sometimes bears a considerable resemblance to scabies, but the former is neither contagious, nor does it commonly involve the fingers or the toes.

One more feature remains to be mentioned in connexion with prurigo, which is, its occasional tendency to become developed on the surface, which has lately been the seat of some eruption. In such instances there is, no doubt, a latent disposition to the disease, which only requires a certain stimulus to evoke; and this remark applies to other cutaneous complaints, besides that under present consideration. The most aggravated case of prurigo I have ever beheld was exhibited in a man, of middle age, an out-patient, who from time to time presented himself at the Skin Hos-

pital, which he attended for years. He first contracted scabies, of which he was soon relieved, but it left in its train prurigo, which was scarcely benefited by any treatment.

Prurigo affects mostly the young and the aged, and comprises three varieties,—P. simplex or mitis, P. formicans, and P. senilis.

Prurigo
simplex.

Prurigo simplex displays no signs of papules. The patient complains of itching all over, but nothing can be detected to account for or explain it. The skin retains its natural whiteness and colour, and the health is otherwise undisturbed. Children are sometimes as early as the eighth or ninth year attacked, but seldom before this age. Warmth increases the pruritus. In prurigo *mitis*, the next in severity, and generally a complaint of youth, the patches are small, and either of a red tint or the natural colour of the skin.

Prurigo
formicans.

From a supposed similarity to the sensation produced by ants creeping over the skin is derived the name of *prurigo formicans*. The difficulty of describing a sensation has passed into a proverb; but that the itching in this variety is extreme, admits of no question. As in other kinds of prurigo, it is intensified at night or towards the early morning; and to it all subsequent phenomena are due. So violent is the pruritus at this period, that the limbs are kept in a state of tension, and show the superficial muscles in relief; while the patient is often glad to purchase a respite at the cost of exposing the surface to cold. As long as he can divest his mind of any subject bearing upon his complaint, he may enjoy an interval of rest; but when this is no longer attainable, the papules become torn by scratching, and betray too evident

marks of the finger-nails. The surrounding skin which was previously healthy, at length participates with the rest. It loses its natural smoothness, becomes hard to the touch, and is of a darker tint than natural.

Prurigo senilis is a disease of advanced life, but not unfrequently shows itself before the age of 60. Sometimes the papules are visible as in the last variety, and then there is no difficulty in determining the complaint, which may be often and at once recognised in the aged, by a peculiar expression of distress, that the countenance of the patient exhibits. Over the region of the scapula and the upper extremities, the itching is usually severe; generally it spares the hands, face, and the lower extremities below the knee. The skin becomes thickened and dry, showing often a scurfy desquamation. Among the lower classes, pediculi often abound in prurigo senilis; and so constant a symptom was this regarded by Alibert, that he considered them as actually engendered by it.

Prurigo
senilis.

Besides the above divisions, prurigo is sometimes purely local, as in *P. genitalium* and *P. podicis*. When it affects the genital organs of the male, the complaint is exceedingly troublesome, and continually harasses the patient. It is seldom that anything can be seen, except, perhaps, an abrasion of the skin from scratching, and occasionally a few papules on the scrotum and penis. In warm weather, and after exertion, or a long walk, the annoyance is rendered worse, and it is sure to be heightened by any excesses in diet. Prurigo pudendi may be confined, in the female, to the vulva or mons veneris, or extend over the greater portion of the sexual organs. In some cases the

Local
prurigo.

mucous membrane of the labia is studded with a number of small elevations, embedded as it were in its structure, and of a deep red tinge; but these are not tender to the touch or on pressure. The pruritus is so great that the patient can scarcely lie down; while the friction to which the surface is exposed, from contact with the clothes, adds to the irritation and prolongs it. It may happen that in the most advanced cases no appreciable difference of structure is observed; and M. Biëtt cites an instance, in which a woman, the subject of prurigo pudendi, was greatly addicted to self-pollution, and yet he failed to discover the least lesion of the part, even with a lens. The disease is more general in women, who have passed the critical time of life, or in whom the catamenia have recently disappeared. It has been known to arise from an overlooked vascular growth at the orifice of the urinary meatus, in which case it may occur at almost any age.

Prurigo podicis usually occurs in people of sedentary habits, and is accompanied by intense pruritus about the verge of the anus. This at night becomes intolerable; and no sooner is the patient warm in bed than the irritation sets in, which he tries to assuage by scratching. If the skin in the neighbourhood be examined, it will be often found covered with small boils, papules, and dark scabs. It is an obstinate variety of prurigo, and one very likely to relapse. In children prurigo podicis may arise from ascarides in the rectum; and in women, from the pressure of the gravid uterus. Sometimes it is the consequence of hæmorrhoids, or tumours in the lower part of the large intestine.

Causes.

The same *causes* that have been spoken of as pro-

ductive of lichen, must be equally looked for in prurigo. In early life the complaint is seldom noticed, except in the summer months, when it is aggravated by whatever increases the capillary circulation of the skin. This may be brought about by a number of causes, as an undue weight of the clothes, or their excessive warmth, or by exposure to heat. Neglect of proper or daily ablution is no infrequent source of prurigo in children. At a later age may be named any vexation or anxiety of mind. Prurigo in the adult is more frequent in men than women. Sometimes it is evidently connected with jaundice, shown by the general colour of the surface. Low and damp situations may be likewise classed among the predisposing causes.

The *prognosis* of prurigo will, to a great degree, Prognosis. depend upon the patient's age. In the young, the affection is seldom much prolonged, and succumbs, without difficulty, to treatment. Prurigo formicans is also usually remediable—the worst cases are of that class which have followed some previous cutaneous disease; in them the ultimate issue is doubtful; we may mitigate their severity, but more we are seldom able to accomplish. In prurigo genitalium, the strength and constitution of the patient should be considered. In a subject otherwise healthy, the complaint very generally admits of relief, which, in many instances, is permanent. Still, we must not forget that, with advancing years, the tendency of this form of prurigo is to increase, and the constant annoyance which it thus inflicts, may indirectly accelerate an otherwise fatal termination.

The indications of *treatment* in prurigo are twofold, Treatment. to improve the general health, and allay the itching.

In children, little more is needed, in the majority of cases, than attention to the digestive organs, and the administration of such salines as the citrate or chlorate of potash, in doses varying from five to ten grains, in camphor mixture, or some mild vehicle. I have found much benefit from an alkali, as liquor potassæ, given twice a day in a decoction of cascarilla or calumba. In other patients, the iodide of potassium has frequently proved beneficial, exhibited in small doses, not exceeding three grains, administered with or without the liquor potassæ, in the same bitter infusion as above. So much does the general health vary in different subjects, that no fixed line of treatment can be laid down, which shall meet the requirements of each case. I may, however, remark, that prurigo, especially in advanced age, allows of no severe treatment, or of the exhibition of such powerful remedies as arsenic. It is more likely to improve under the influence of tonics, among which may be included quinine, with the sesqui-carbonate of ammonia. As local remedies, the common zinc ointment, with the addition of a small quantity of mercury, five or six grains of the red precipitate to an ounce of cerate, applied to the part night and morning, often diminishes the irritation; and sometimes I have known a very weak nitric acid lotion, half a drachm to eight ounces, or one of bismuth, a scruple of the trisnitrate to six ounces of water, and two drachms of glycerine, exceedingly serviceable.

There are few diseases of the skin, which are more benefited by baths than prurigo. They should be used tepid, or warmed to blood heat, but not beyond this point. In any case, if the water be hard, it should be made soft by linseed boiled to a jelly, or by the addition

of from three to four ounces of carbonate of soda. The evening is the proper time for the use of the latter, as it is at this period exacerbations generally occur. Much has been said of the value of sulphur baths in prurigo, but they ought not to be administered except in the chronic stage of the disease, and when the pruritus has considerably abated.

Since the treatment of prurigo is, in many instances, Diet. only capable of improvement by an observance of several conditions, it follows that great care is necessary in diet. This should be restricted to 'plain, wholesome food,' without the addition of any form of alcohol, unless it be in the aged, and then only in moderate quantity. The meals also should be regular, and late hours avoided. There are likewise other accessories, which, scarcely less than diet, deserve attention in prurigo. Thus, whatever exposes the skin to irritation, as rough and coarse towels, or flannel, if the patient be unaccustomed to it, should give place to a softer material, and the use of soap exchanged for oatmeal or thin starch. Sometimes the pruritus is so excessive, that the patient tries to obtain a momentary gratification by measures which are only calculated to increase it. On this subject I need only observe, that in no complaint affecting the skin is forbearance from scratching more required.

Treatment of local prurigo.—Still keeping in view Treatment. the state of the general health, this form of prurigo is often greatly relieved by local remedies. In all cases the first question to decide is, how far the complaint is attributable to any extraneous circumstance. It has been already shown that, at an early period of life, a common cause of prurigo podicis is the presence of as-

carides, the removal of which is mostly followed by a subsidence of the pruritus of the part. To effect this object, one of the preparations of steel, taken internally and continued for some weeks, is recommended; and the use likewise of the following injection every third day,—tincture of the sesqui-chloride of iron three drachms, and of liquor calcis a pint, a third of which suffices for one time. In like manner, when in prurigo genitalium its origin is due to a vascular growth at the meatus, it should be excised at its base, and the latter treated with a strong caustic; or, better still, by the actual cautery, to prevent a recurrence; and when produced by hæmorrhoids, the remedy consists in the removal of the offending cause. When prurigo is an idiopathic affection, the use of chloroform is often of great service, applied either in the form of vapour, or as an ointment consisting of equal parts of chloroform and camphor liniment. If chaps exist about the margin, lint dipped in black wash will often relieve them. Mr. Curling speaks favourably of a lotion of sulphuret of potassium, in the proportion of one drachm to seven ounces of water. The bowels should be always properly regulated, and the parts thoroughly cleansed after each evacuation with hot water.

CHAPTER VII.

ECZEMA.

ECZEMA, from the Greek ἐκζέω, ‘to issue or bubble forth,’ is a common disease of the skin, and in early life is surpassed in frequency by none. In its usual form, it may be said to consist of an eruption of minute vesicles, mostly clustered together, developed on a red and slightly raised surface, attended as well as preceded by a sense of itching in the part. The vesicles soon become opaque, and give rise to thin scales, which are finally detached, and leave no permanent discolouration. In some of the milder cases of eczema, this primary stage may be so brief as to escape notice, or the vesicles may subside before attaining maturity. These are, however, exceptional instances, and do not affect the more general claims of eczema to be regarded, as of vesicular origin.

General
characters.

If we have the opportunity of observing eczema within a day or two of its first formation, we shall find it to consist of an aggregation of small red elevations of the skin, rough to the touch, and exuding a slight and watery secretion; a few hours later, and the vesicles become more evident. A tingling, or even a slight burning, pain is also felt in the affected part. However uncertain the vesicular period may be, in certain cases continuing only for some hours, while in

others, it is present nearly throughout the entire course of the disease, the secretion, at its commencement, is always clear and colourless; afterwards, it becomes opaque, or semi-purulent, or tinged more or less with blood. The scabs which succeed, correspond in structure to the fluid, from whence they are derived. Soft at first, they become hard and dry, thin, and curled up at their edges. Losing, after a time, their central attachment, they are shed as numberless white scales, and at this stage are entirely without moisture. At length they cease to be renewed, and a faintly red spot alone remains, to indicate the former site of eczema.

The patches of eczema vary in size, shape, and situation. Sometimes the eruption is confined to a space not larger than a shilling, when it is generally circular, and seated on some portion of the extremities, or the neck, or face. Should it be the latter, the cheek or forehead is usually selected, or the affected part may be of larger extent, and oval or irregular. Such a patch commonly presents a pale red colour, and is studded with ill-formed vesicles, that are capped with small crusts, intermingled with cuticular *débris*. If the crusts be accidentally removed, as when a fold of linen previously applied is suddenly withdrawn, a clear secretion issues in drops, which soon concretes again. At a later stage these characters are no longer seen. The surface is then only rough, or glazed, and the skin finally acquires its natural appearance.

Situation.

Eczema is developed on any region of the body. In early life it is especially frequent on the scalp, the whole or part of which may be affected, or it may extend from thence to the forehead, cheek, or ears. The

disease spreads by continuity of surface, the original patch increasing at some point of its periphery, or several separate patches may be successively evolved. As a rule, eczema chooses those situations, which are remarkable for the thinness of their integument, as the inside of the limbs, the flexures of the joints, the front of the neck, the back of the ears, or the eyelids. Eczema is often symmetrical in its arrangement, and appears in corresponding regions; or it may exist in various parts at one and the same time, viz., the scalp, axillæ, and pubes. When the disease is syphilitic, or hereditary, its locality is, in many cases, capricious. Thus I have met with it restricted to three toes of one foot, or represented by a considerable patch on the buttocks. Age obtains no freedom from eczema; it may occur as a primary complaint, even when the patient is 70 years and upwards, or, on the other hand, in the infant of a few days old.

Three general varieties are ascribed to eczema: Varieties.
 Ecz. simplex, Ecz. rubrum, and Ecz. impetiginodes.
 Its local divisions are numerous, as Ecz. manuum, Ecz. mammæ, Ecz. intertrigo, Ecz. genitalium, Ecz. aurium.

In *simple* eczema, the eruption scarcely passes beyond the vesicular boundary, and is accompanied by little or no redness. The vesicles are small, and although crowded are mostly distinct, appearing as so many transparent points on an uninflamed surface. In the course of a few days, some of the vesicles will have absorbed their contents, and nothing is left except a slight scurfy desquamation. This termination is occasionally witnessed in recent cases of infantile eczema of the head; in others, where the vesicular stage is rapid, the surface is dry, and shows a quantity of semi-

Eczema
simplex.

transparent scales rather than crusts, partially attached to the scalp. More commonly, the vesicles will have become turbid, or at least the majority of them. They soon end in yellow scabs, which peel off, and leave the colour of the skin unchanged. It may happen that only a single crop of vesicles will arise, but this is rare. The disease generally soon subsides under treatment, but sometimes extends over many months. It is chiefly observed on the face, fingers, or scalp, and occasionally the upper extremities.

Eczema
rubrum.

Eczema rubrum differs from the last, in the ordinary signs of inflammation being superadded. The affected part is swollen from infiltration, and presents a bright red or maroon colour; this is often well shown, when the lower extremities are attacked; or again, in eczema of the hands, which are sometimes enlarged to twice their natural size. Much heat and tingling are experienced, especially towards night, or as soon as the patient is warm in bed, and the surface is quickly covered with minute shining vesicles. The redness momentarily disappears under pressure, but returns at once if the pressure be removed. Sometimes the outline of the patch is abrupt, but more generally it fades into that of the surrounding skin. At the onset, a certain degree of constitutional disturbance is often manifested, which lasts until the inflammation declines; thus we find much heat of skin, a coated tongue, and the urine loaded with lithates. The secretion in the vesicles, at first neutral, soon becomes alkaline, and as it escapes, gives to the part an appearance as if it were bedewed with moisture; it is also apt to be acrid, and excoriate any adjoining part over which it flows. In some places the skin seems smooth, glossy, and tightly

bound; in others, cracks of considerable depth are visible, exposing the cutis, which is both raw and red. The patient, in his endeavours to relieve the irritation, tears the skin, which readily breaks and bleeds, and hence little dry scabs of blood are formed. At other times the vesicular fluid soon loses its transparency, and yellow crusts ensue, but the discharge continues underneath them, and to such an extent, as to soak through whatever lint or dressings are applied. Even when this has ceased, and the scabs are reduced to so many thin shells, the dark reddened tinge of the skin is long retained. In by far the greater number of cases, eczema rubrum, when involving the lower limbs, is a complaint of middle life, and mostly met with in those, who are what is termed plethoric. In them the amount of infiltration in the subcutaneous tissue is sometimes very considerable. Although the redness of surface may have disappeared, the integument continues for a lengthened period thickened and inelastic.

In eczema *impetiginodes*, the most frequent variety of eczema, the vesicles are converted into pustules, and the latter form yellow scabs. The irritation equals that of ecz. rubrum. When the hair is implicated, its roots become matted together in tufts; the scabs, as they dry, crumble, and are detached in fragments among it. In chronic eczema capitis the patient may thus temporarily lose the greater part of his hair; of this we see examples when the head has been shaved, those places lately occupied by crusts being still bare. Should the disease have spread beyond the circumference of the scalp, on raising the hair at the side the crusts are found dry, thin, and yellow; they are often imbricated, and at the same time easily removed; the cheeks, or

Eczema
impetigi-
nodes.

other parts of the face are affected in like manner, but the secretion is seldom great. If eczema impetiginodes be met with in infancy, or before the growth of the hair is completed, the scalp presents a mass of flat wrinkled crusts, of a yellow or a greenish hue, and from which, if long neglected, an offensive odour emanates.

Course of
eczema.

After the acute stage of eczema, and as recovery is about to take place, it becomes greatly altered in character. The surface of the same patch, which a few days previously was secreting, now ceases to discharge, except perhaps at the centre, which is covered with a few yellow crusts; while the circumference, for some distance, offers only a reddened stain. The scabs hitherto adherent have either disappeared, and their place been supplied by epithelial scales, or they are but imperfectly attached. I have seen eczema of the face completely changed in appearance by a few hours' exposure to a cold wind, the entire skin of this region being rendered perfectly dry and red, and covered, in great part, by epidermic *débris*. In eczema particularly of the arms or scalp, the complaint is, in most cases, finally resolved into a squamous affection, resembling pityriasis in the branny thinness of its scales; which, on the trunk and in general eczema, constitute large flakes of exfoliated cuticle, detached from a reddened surface beneath, and as often renewed; or a like colour, only dull and more diffused, is presented by the same disease, involving the lower extremities, and in either case assumes an appearance somewhat similar to psoriasis. From this, or from pityriasis, eczema is distinguished by the existence, at some antecedent period of its history, of a serous

Squamous
eczema.

exudation, and by its crusts; which, however small, mostly lack the silver-like lustre of the scales of lepra.

Another kind of eczema, which may be developed on any part, is peculiar on account of its similitude to lichen. The disease in this form does not offer any sero-pustular appearance, and its vesicles are few. The surface is rough, and presents a number of minute isolated scabs, scarcely larger than a pin's head, and very adherent. Nor is this a mere phase of the complaint; it is characteristic of the variety, and of a continuance nearly equal to that of the eruption itself. The latter undergoes little change; indeed, less than in any other variety of eczema, nor, as a rule, is it apt to spread. The attendant itching is, however, severe, particularly when the complaint occurs on the upper extremities or shoulders, which is not unfrequently the case in advanced life. In others, the affection is confined to a single patch of inconsiderable size, and at a younger age, or in children, several such circumscribed spots are met with in different parts of the extremities or trunk. As a more general complaint, and in an acute stage, it appears to partake of the vesicular and papular elements; the former being sufficiently expressed by a copious watery secretion taking place at intervals, while the latter is abundantly seen at any portion of the circumference of the patch.

Lichenous
eczema.

There is a species of eczema, which may be termed the erythematous, from its relation to erythema. It is almost always seen in the female, and occupies generally the cheeks; these are flushed, and present on their surface a number of thin and attached scales. Much smarting pain is felt, when the patient approaches the fire, or becomes otherwise heated. The redness is, how-

Erythe-
matous
eczema.

ever, transitory, and a slight oozing of a watery fluid is now and then perceived, particularly in the morning, after a night's rest. Trivial as the complaint may seem, the itching is sometimes so great as to preclude sleep. When occurring in men it chiefly affects the forehead, and in either sex is much increased by washing the face with soap, or by taking alcoholic drinks. The same fleeting colour may be also noticed in the lichenous variety of eczema in children. In these cases the irritation is extreme, and the bright redness, which is in no degree limited to the face, is succeeded by unusual paleness.

Eczema
hereditary.

Eczema is sometimes an hereditary, and often a relapsing complaint. Although a less constitutional affection than psoriasis, eczema will sometimes pass through several generations, and occupy, it may be in each case, a different situation. Hereditary eczema is frequently obstinate and severe, and unlike the squamous diseases in general, does not diminish in proportion to its descent. As a relapsing disorder, eczema may occur at a certain period, as the autumn or spring, or after a long irregular interval. With the exception of the hands, which are apt to be involved successively, eczema often attacks new regions, as the ears, forehead, scrotum, and other parts.

Local varieties of Eczema.

Eczema of
the hands.

Eczema of the hands.—As an idiopathic complaint, eczema usually selects the back of the metacarpus, extending from thence to the fingers, or the latter may be involved alone. Sometimes there are several patches, separated from each other by healthy skin; or, what is rare, the eruption is confined to the palmar aspect.

The disease, which is more frequent in women, is characterised by great obstinacy, and an excessive proneness to recur. In an early stage, a large amount of serous infiltration is sometimes seen, which may reach to the ends of the fingers, causing the whole surface to be red, swollen and otherwise inflamed. At a later period, or in a chronic stage, the surface is dry and rough, now and then 'weeps,' and is partially covered with thin white and small scales; or these may have disappeared, and only an excessive roughness remains. If near the knuckles, the skin over them is thrown into transverse folds or wrinkles, or numerous cracks extend along the back of the fingers, even to their tips; the hand in consequence is rendered stiff, and any movement, especially that of flexion, becomes both difficult and painful. The secretion at any stage is slight and colourless, like water: very generally it is increased by the patient rubbing the part, which he is much disposed to do at night, as at this time the irritation is greatest. Vanishing, or nearly so, in the summer, the disease often returns in the autumn, a sense of itching and roughness being the earliest symptoms indicative of a relapse. When the complaint has subsided, it still leaves the skin red, and much thickened, and the linear depressions on its surface are well marked; these symptoms, especially the roughness, linger in chronic instances for several weeks after apparent recovery. In the male, eczema of the hands is commonly determined by some local cause. It then runs, for the most part, an acute course, and passes rapidly into eczema impetigo; sometimes one or more of the nails are affected at the roots, whence a change from the natural state to a rough white and scaly condition is first perceived,

although in many cases no pain is felt. If it is allowed to continue, the nail falls off, and this may happen to all the digits, whether of the fingers or toes. Their regeneration, nevertheless, takes place, and, under favourable circumstances, the new growth is free from disfigurement. Should it happen that the nails recover, without being renewed, their surface then shows a number of small transverse elevations, and this state generally continues for many months.

Eczema
intertrigo.

Eczema intertrigo is the name given to eczema, when it is situated at the bend of the larger joints, as the groin, popliteal space, or front of the elbow. Sometimes all these parts are invaded, as we frequently find in children, in whom the complaint not seldom coexists with eczema of the face or scalp; or it may have succeeded to an attack of the latter. In early life the irritation thus produced is very great; at night particularly, exacerbations occur, precluding sleep, while the child endeavours to scratch the affected surface with his nails, and this he will certainly do, unless preventive measures be taken. The disease is commonly congenital, commencing about the time of teething; sometimes it attacks other children of the same family at a similar age; or it may descend from the parent to the offspring. Notwithstanding its severity, it is seldom that the health suffers, and left to itself it frequently continues for years. Among its complications may be mentioned the formation of fissures, especially if the part be exposed to a cold wind, when they often bleed. In the adult, eczema intertrigo is more generally limited to the flexures of two corresponding joints, and when at the elbow, I have often noticed its occurrence with a like complaint of the

neck. The irritation partakes rather of a burning character, as the patient describes it, than itching, and the same scanty secretion marks its development in this, equally as in early life. It is sometimes witnessed on the foot, occupying the adjacent sides of two or more of the toes, and when severe, great difficulty is occasioned in walking, and most of all, in going up and down a flight of stairs. A similar affection is eczema of the genitals, which is mostly associated with a distinct patch on the upper and inner surface of the thighs, or extending backwards it comprises the perineum, or the margin of the anus; it is the only variety of eczema, to my knowledge, which is ever contagious, and of this I have seen many instances, as in the case of husband and wife. In an acute stage, it spreads to the penis, the loose tissue of which is rapidly infiltrated, and it often travels along its under surface to the frænum. A thin glazy secretion issues from the folds of the scrotum, and much of the consequent irritation results from the scabs, becoming detached in different ways

The rarest kind of eczema, in my experience, is that which happens on the glans penis, and with it the mucous lining of the prepuce. I have never seen it except in the adult, and then only in middle life. It is distinguished by great redness, which differs in intensity in various spots. From the surface there exudes a serous, rather than a semi-purulent secretion, which, with that from the prepuce, gives a disagreeable odour to it; and at the edge of the latter painful cracks are often produced. The disease, although not contagious, is exceedingly obstinate, a condition due to the varying size of the organ, which not only renders the part affected unusually sensitive, but, as

Eczema
of the
penis.

will be readily understood, greatly interferes with the progress towards recovery of the complaint.

Eczema of
the breast.

The female breast is liable to eczema, particularly during the time of suckling, or the disease may show itself at puberty, when the mammæ have become largely and quickly developed. It commences near the nipple, and, unchecked, may spread to the opposite gland. It is accompanied by considerable secretion, and much pain is experienced from excoriation, unless the child be weaned. Under puberty, eczema of the breast is rare in the female, and almost unknown at any age in the male.

In some cases the nipple and its immediate circumference will be attended by an apparently slight, but nevertheless a troublesome, form of eczema—the precursor of cancer of the breast. The eruption, limited as it is to the above part, may thus serve to awaken our attention to the possible and not remotely probable occurrence of malignant disease at a certain period of life.

Eczema of
the ears.

Eczema of the ears, in the majority of cases, is confined to the soft and tender skin lining their surface at the back, which in an early stage gives rise to a thin discharge. This finally disappears, and leaves a few thin scabs on a red ground. The complaint is sometimes seen in front of the ear, and it may block up the external meatus, and so interfere with the sense of hearing. It offers no special characters, but its locality is very pathognomonic. The same may be said of eczema of the lids, which is not an infrequent attendant upon ophthalmia: or of eczema of the umbilicus.

Causes.

Dentition exercises a powerful influence in the development of eczema in early life. There is reason

to suppose, in many cases, that improper food, as saccharine matter or acid in excess, largely contributes to favour the disease. As a consequence of an increase of temperature, we have eczema following exposure to the rays of the sun on those parts which are unprotected by the clothes, viz., the face, neck, and hands; and still more frequently from the heat of a furnace, about which dust and other noxious articles abound. There are several external agents which rapidly produce local eczema, as, for example, croton oil: a knowledge of this fact enabled Hebra to induce the eruption artificially, and to note its various changes. The too active use of sulphur for the cure of scabies often gives rise to eczema, when the skin is naturally delicate. The origin of the grocers' or bakers' itch, which is in reality eczema, is usually attributed to the contact of sugar or flour alone. This statement is true to a certain extent. It is well known that in sugar an *acarus* is easily generated, which quickly multiplies to an extraordinary degree; and there can be little doubt that in the variety of eczema peculiar to the trades, from whence the name is derived, its existence often proves a source of irritation, and favourable to the development of the eruption. Other occupations, which involve the necessity of handling substances scarcely less noxious, produce a similar result; and thus we frequently meet with the disease in dyers, hatters, compositors, and those accustomed to the use of lime or soda. Pregnancy and lactation may be mentioned among the predisposing causes of eczema.

In considering the treatment of eczema, we should Treatment take into account the stage of the disease, its variety, and origin. The same principles of treatment which were discussed in an early chapter on psoriasis in the

inflammatory stage will equally apply, during a similar period, to eczema ; and I may again advert to the value, in these cases, of antimony in conjunction with saline aperients. With the subsidence of the inflammation, the antimony should be omitted or reduced, and, in many instances, no other constitutional means are needed.

Value of
arsenic.

Arsenic, it may be stated, does not prove equally beneficial in the treatment of eczema, as in certain affections of the squamous class ; although its claims to consideration are unquestionable in the local varieties of this disease. Never is it advisable to have recourse to the administration of arsenic in eczema during its acute course. As a rule, when eczema is strictly local, and confined to the hands or ears, or other parts, great gain may be expected from its use internally, care being taken to prolong the treatment by small doses rather than to hasten it by a larger quantity. I am no advocate for increasing the dose, which, for an adult, should consist of three or four minims of the liq. potassæ arsenitis, given in water or any suitable vehicle, *and always after food* ; still less should it be persevered in when its constitutional effects are produced.

Mercury.

In contradistinction to arsenic, the chief value of mercury rests in its successful application to that numerous class of cases for which the first-named mineral is unsuited. In syphilitic eczema mercury is invaluable, and in instances of general eczema in the adult it is usually requisite. The best method of its administration is the vapour bath, recommended by Mr. Henry Lee. Nothing can be more simple than its application ; it has the advantage of being attended by the least risk to the patient's health, and may be used every other day

or daily. Inunction is another plan which answers remarkably well in children. In this case a flannel band is to be worn around the abdomen, on which should be smeared daily from half a drachm to a drachm of mercurial ointment. Scarcely less satisfactory are the results to be obtained from giving mercury by the mouth. The bichloride is the preparation I prefer to any other, in doses of the eighth or twelfth of a grain given twice a day to a grown person, and proportionately less to a child.

The internal use of sulphur is of value in eczema, Sulphur. when we wish to avoid mercury. A mode of administering it, which I have found of service, is to add to a drachm each of precipitated sulphur and tartrate of soda, from ten to fifteen grains of the bicarbonate of potash; the powder may be taken in a cup of milk every morning. Should the complaint be very severe, half a grain of calomel and three grains of James' powder may be likewise ordered at night. If the medicine shows any disposition to gripe, the sulphur should be given in half doses, but in that case it must be continued for a longer period. By this plan of treatment we are generally enabled to subdue the disease in a short time. Its great utility is seen in those instances in which the eczema is acute and general, and when the urine is both scanty and loaded with the crystals of urate of soda. This latter condition is too often overlooked, and yet no truer guide can be taken, denoting a progressive improvement, or the reverse. A period will now in many cases arise, when the complaint becomes stationary, or nearly so. The eruption has probably disappeared from the greater part of the body, and yet lingers in one region, or returns. It is at this

stage that arsenic is most serviceable; and, if no untoward symptoms occur, it may be pushed to the extent of nine minims a day. The diet, it need scarcely be said, should be strictly regulated throughout in eczema, and all fermented liquors avoided.

Iron.

Steel is indicated in eczema, when anemia is present. Such cases are generally met with about puberty, and are attended by a large amount of secretion from the affected surface. They will mostly derive great benefit from steel, to which arsenic may be added in small doses.

Eczema in children.

In the milder examples of eczema in children, an alkaline plan of treatment is frequently serviceable, more especially in the summer months, when unripe fruit is apt to be largely partaken of. For this purpose the acetate or chlorate of potash may be employed. It tends to correct any undue acidity of the urine, and lessens the irritation so frequently experienced. When the disease is severe, and milder measures have proved unavailing, arsenic is of great use at this age, and to the period of puberty.

Local treatment.

At the same time that eczema is thus treated constitutionally, it will be necessary to have recourse to certain local remedies, which demand some degree of care in their application. The first point to be attended to, is the removal of the crusts at each dressing, wherever they collect. These, unless they happen to be unusually large and firm, can be detached without difficulty by the aid of thin starch or the yolk of egg and warm water. If they be not thus readily removed, their dislodgment will be much facilitated by the application of pieces of lint dipped in olive or almond oil, and a poultice over them. In eczema

capitis, should the hair be abundant, it must be cut short, but not shaved, otherwise it is almost impossible to keep the scalp properly cleansed. In children, a weak alkaline wash, as from one to two drachms of carbonate of soda to a pint of tepid water, will materially contribute towards the removal of the crusts.

When the inflammation is considerable, the oxide of zinc or the carbonate of lead are recommended, a drachm of the former or a scruple of the latter to an ounce of cerate. The addition of benzoin to lard renders the latter much less likely to turn rancid, and is generally employed on this account. Either of these preparations should be smeared, but not too thickly, over the part cleaned, as above directed, morning and evening. In those cases, in which the disease has passed into impetigo, and is characterised by a copious yellow discharge, an ointment containing from fifteen to thirty grains of sulphur, with the same amount of unguentum hydrargyri to each ounce of lard, will often be very efficacious. Mercury, in one of its varied forms, offers a wide field for selection in the choice of a local agent, and one also well deserving attention. These I need not repeat, as they have been sufficiently alluded to in previous chapters. As a lotion, the oxide of zinc, in combination with powdered calomine in equal quantities, half an ounce of each to four of water, with a little glycerine, will often greatly mitigate the irritation of eczema, particularly when the surface is raw and red; it is best applied with a large camel's hair brush, and may be resorted to, whenever the itching is troublesome or severe.

Tar, as the unguentum picis liquidæ, or the *huile de cade*, is of use in chronic eczema, especially of the

scalp. The hair having been previously shortened, it may be applied with a paint brush, and allowed to dry. The patient should then wear a light cap, to protect the part. What remains of the tar after a few days is easily removed with a soft brush, and one application of the ointment is generally sufficient. Tannic acid, in the proportion of ten grains to an ounce of cerate, has, likewise, a reputation in chronic eczema, but I cannot speak from personal observation of its effects.

Treatment
of chronic
eczema.

In circumscribed eczema of long standing the application of a blistering fluid is sometimes beneficial. The surface of the patch is to be touched with the acetum cantharides, and then immediately sponged with cold water. Hebra mentions with approval a stronger agent, viz., a drachm of potassa fusa to an ounce of water. A method similar to the first is occasionally useful in chronic eczema of the fingers; and when a slight watery discharge oozes from time to time from the hand, a weak nitric acid lotion may be advantageously employed. In chronic eczema, where the irritation is still considerable, the latter will sensibly diminish from lightly painting the surface, once in twenty-four hours, with a solution of sulphate of copper, in the proportion of four grains to an ounce of water.

Patients suffering from general eczema will sometimes complain most of the irritation when feeling cold at night, and are unable, in consequence, to sleep for several hours. This may continue for a number of days, and is at least an annoyance. The good effects of a warm bath, taken in a warm room and at bed-time, are often very apparent in this class of cases.

Causes of
relapse.

Besides the use of medicines, we must refer, in eczema, to its cause, in order to promote a cure, or to guard, as far as possible, against a relapse. Thus, in

eczema of the breast, the consequence of lactation, it is imperative that the child be weaned, and without delay ; and when the complaint is clearly due to some external and continued irritant, as lime, sugar, &c., the latter should be avoided. If the patient be afterwards obliged to resume his employment, which has occasioned the eruption, he would do well to protect his hands by anointing them with an unctuous preparation, or wear some form of mittens or gloves. Chronic eczema of the lower extremities not unfrequently leads to a troublesome kind of ulcer of the leg, and with it a varicose state of the neighbouring veins. The former is generally much relieved by an ointment containing the red precipitate of mercury, from five to ten grains to the ounce, spread lightly on a piece of soft rag the size of the ulcer, while over it is placed a compress of linen that has been wrung in hot water. For the latter, the patient should be directed to wear a bandage, at least seven or eight yards long, carefully applied from the toes, and with even, but not severe pressure from the ankle upwards ; the best kind of roller is that known as ‘dommet,’ which, from being slightly elastic, is of great benefit in these cases. As long as the disease is acute, he should neglect no opportunity of resting the limb in the horizontal position, and this is more effectually done by raising the heel, and so lessening the force of the current of the blood. Sometimes eczema is indirectly occasioned by a residence in damp localities, or by a deficiency of proper air and ventilation. The last is too often apparent among the children of the poor, while the subjects of the first in general pertain to women, who have passed the middle period of life.

Among other influences, which may lead to a relapse

in eczema, is exposure to the weather ; and of this a striking example occurred to me. A woman, about 30 years of age, came to the Skin Hospital with eczema, confined to the face, apparently chronic, and by no means severe ; and which soon yielded to treatment. In a few weeks, however, she returned with the complaint in an aggravated stage. She then told me that, as long as she remained in-doors, the disease subsided readily enough under treatment, but that the slightest exposure was immediately followed by a severe relapse. I requested her, on the next occasion of an attack, to pay me a visit, and the face then showed a most acute form of eczema, accompanied with great infiltration of the eyelids and cheeks. I also learned that, on her passage home from the Brazils, where the eruption first occurred, she could not venture on deck, from the certainty of experiencing a recurrence of the disease.

Complica-
tions.

Before quitting the subject of eczema, I must refer to one or more complications, with which it is sometimes connected. They occur chiefly in middle life or at a later age, and are more frequent in women than in the men. * Diabetes, for example, is not an uncommon attendant upon eczema : situated, for the most part, on and around the genital organs, it is the source of great annoyance to the patient, from the irritation it gives rise to. In these cases, the state of the urine is the exciting cause of the disease, which on this account is often obstinate to subdue. A somewhat similar condition of eczema I have observed in other instances, a few days or weeks before death. Another complication, and one rendered all the more dangerous from its liability to escape suspicion, is that which results from the development of tubercle, particularly of the brain. Such ex-

amples are no doubt rare, but their occasional occurrence should not be overlooked. They are usually found in the young subject, and in those among whom the eruption has been of exceptional severity, and little amenable to treatment. Among the cutaneous complaints, which may be associated with eczema, and often greatly aggravate its character, are first, psoriasis, especially in regard to the chronic nature of the affection, and its widely scattered form. The eczematous patches, it may be noted, are mostly seen near the flexures of the joints, whether large or small, as the axilla or pubes; or along the adjacent sides of the toes rather than the fingers; the spots of psoriasis, on the other hand, predominate on the scalp or trunk. In these localities, the silvery aspect of the scales is wanting, and the eruption partakes rather of a red or maroon colour. The itching is extreme, and in my experience, the disease, when thus complicated, is connected, remotely it may be, with a specific taint. Again, pompholyx sometimes co-exists with general eczema, after the acute stage of the latter has ceased. The blebs arise everywhere in succession, and often attain considerable size and extent; and by repeated relapses, prolong the primary disorder almost indefinitely. Lastly, may be mentioned purpura, which is mainly confined to the lower limbs.

CHAPTER VIII.

HERPES.

General
characters.

HERPES is the term or name employed to designate a collection of vesicles, disposed in irregular patches, which vary in extent from the smallest size to several inches in diameter. The vesicles are commonly larger than those of eczema, and almost hemispherical in shape. The disease, after a certain course, terminates usually in resolution ; and, except in one species, is not contagious.

Herpes
phlecty-
nodes.

A frequent variety of simple herpes is *herpes phlecty-nodes*, which may be often seen on the face or the cheek. Its earliest sign is shown by the appearance of a red spot, which somewhat smarts or tingles, and in the course of a few hours becomes covered with vesicles ; in many cases the eruption follows the course of some particular nerve, and in this locality the track of the first or second division of the ophthalmic division of the fifth is clearly indicated. Some interesting observations on this point, in connection with more serious mischief to the eye itself, are recorded by Mr. Vernon.¹ At the end of twenty-four or thirty-six hours, the vesicles are opaque, and as they burst the

¹ See *St. Bartholomew's Hospital Reports*, 1868.

fluid concretes and forms crusts, which drop off, leaving only slight reddened discolorations. Herpes phlectynodes, or 'brow shingles,' will sometimes take place on the eyebrows or upper lid after an acute attack of ophthalmia. Of a similar character is *herpes iris*, Herpes iris. where concentric circles of vesicles are grouped around a single and central vesicle. It is in consequence of this disposition of the vesicles, that the term iris is applied to the eruption.

When found on the tongue, or soft palate, it is only in the early stage that the disease is recognised; owing to the surface being constantly bathed with saliva, no crust can form. The thin mucous membrane is easily broken, and the superficial ulceration consequent upon it soon disappears.

Herpes of the prepuce is evidenced by a small group of vesicles, filled with serum, which soon dry and give rise to thin scabs. They are generally seen at the free edge of the prepuce, sometimes on its under surface, and seldom on the glans. The eruption is accompanied by slight itching, and occupies an extent of an average size of a threepenny-piece. Situated on the mucous lining, the vesicles soon mature and break, and thus cause a superficial excoriation, which, left to itself, is soft, and quickly heals. It is sometimes otherwise, if the complaint has been subjected to caustic treatment, in which case it is not always distinguished from a syphilitic sore. When on the integument, the scab mostly heals without any ulceration or enlargement of the glands in the groin. Herpes is less common in the female, and in this sex it is usually found on the labia, either after menstruation or in the course of pregnancy. Provided the complaint be not interfered with, herpes

Herpes of the prepuce.

of the genitals rarely lasts beyond a few days, and is altogether a slight disease.

Herpes labialis occurs on either lip, at the junction of the skin and mucous membrane, or at the angle of the mouth, or it may affect the greater part of the exposed mucous membrane of the lips, which is then raised like a series of blisters. Little inconvenience follows, unless the part be hot and swollen, which is sometimes the case. When confined to the corner of the mouth, the vesicles are separate, and do not often suppurate. At the end of ten or fourteen days, or less, the crusts lose their attachment at the circumference; they fall off, and no further inconvenience is felt.

Herpes
zoster.

Herpes zoster or *shingles*, called by older writers *St. Anthony's fire*, or *ignis sacer*, is a well-marked vesicular eruption, more frequent in early than advanced age. In most cases it follows the course of one of the intercostal nerves, not far from the vertebral column; or it may commence near the sternum. On the trunk, the complaint is represented by several distinct patches which are largest in their transverse diameter, and more or less oblique in direction. They are successively evolved as so many red stains, which soon become studded with closely packed vesicles. These often attain a large size, equal to that of a pea, and are flattened at their summits from the pressure of the clothes or other causes. A slight pricking or burning pain precedes their first appearance, and in many cases some degree of constitutional disturbance is shown. Occasionally, severe dyspnoea will be a precursory symptom; the patient may complain of a 'catching' pain when taking a deep inspiration, which might be mistaken for commencing pleurisy. Sometimes the clusters are so arranged as

to resemble a belt or zone encircling one half of the body. Authorities widely differ as to the side which is most affected ; thus, the occurrence of herpes zoster on the right side is mentioned by Cazenave and Schidel as having happened nineteen times out of twenty in their experience, whereas Rayer and Reil note the left as that most frequently attacked. The point is unimportant, but it is most rare to meet with herpes zoster completely encircling the body, an event which in former days was deemed a singularly bad omen to the patient. The zone is generally incomplete, being deficient at either extremity or the centre. Starting from the vicinity of the vertebral column, the eruption may pursue the track of one of the cutaneous nerves of the abdomen, of the thigh, or of the upper extremity ; or one of the branches of the superficial plexus of the neck, or of the facial after its exit from the infra-orbital foramen. Less frequently do the supra-orbital or occipital nerves suffer in a similar manner. Any of them may, however, present at their periphery, or at various points in their course, a cluster of vesicles identical with herpes zoster of the trunk.

In the young and otherwise healthy subject, herpes zoster runs an acute and rapid course ; the degree of constitutionual disturbance varies in different cases, and sometimes is wholly absent. A young woman, aged seventeen years, became a patient at the Hospital with herpes zoster of the left side. Many of the vesicles were single, and quite separate, while others were disposed in groups of three or four ; the whole formed an unequal line from the sternum, and passed close under the nipple to the axilla, where a large patch was observed. The eruption was well developed, and of

four days' duration. It was only by accident that the patient's attention was directed to the vesicles, which were unattended by any constitutional symptoms. In the aged, on the other hand, or in those in whom the health is much impaired, the scabs are apt to be succeeded by troublesome ulcerations, which are tedious in healing, and occasionally become the seat of acute neuralgia.

Causes.

Herpes of the lips sometimes appears towards the close of a catarrhal affection, bronchitis or pneumonia, or fever, whether intermittent or typhoid. The same disease will attack delicate children exposed to the sun's rays on a hot day; or it will frequently occur without any positive cause. In many cases, herpes phlectynodes would seem to be produced by certain changes in the atmosphere, and in hospital practice it not unusually happens, that several patients, chiefly young adults, are simultaneously attacked. Herpes preputialis is said to be often connected with an elongated prepuce, which favours the retention of the glandular secretion beneath it. To this cause or to stricture is commonly ascribed herpes of this part, though it may appear without any such complication. This, when it does occur, may be accounted for by the constant escape of a few drops of urine, which by wetting the linen keeps up a continued irritation about the prepuce. Whether such be correct or not, there is no doubt that efficient and daily ablution will greatly aid in preventing a recurrence of the eruption. The cause of herpes zoster is quite unknown; its subjects are generally youths, or men who have not yet reached middle age. The complaint is much less frequent in the female.

Treatment.

Whatever the variety of herpes, nothing is gener-

ally more simple than its treatment. Left to run its own course, the disease, as a rule, will subside after a few days. In phlectynoid herpes, all that we need do, is to dust the vesicles with a powder, consisting of equal parts of calamine and starch, contained in a small muslin bag. This causes the vesicles to shrink, or should they have already burst, it acts as a useful shield, and prevents the surface from excoriation. If the patient complains of unusual tenderness, this may be relieved by the application of a lotion of oxide of zinc—one to two drachms to four ounces of water, and three drachms of glycerine. In herpes of the prepuce, the insertion of dry lint alone beneath the foreskin, once or twice a day, will be sufficient; or a simple lead lotion as a wash. In herpes labialis, a patient who has once suffered from an attack, of which he is generally forewarned by a sense of heat and tightness in the part, is liable to experience another; and the more so, if gout be present. Sometimes, at its outset, its further progress is checked by frequently bathing the surface with a spirit lotion, as equal parts of rectified spirit or Eau de Cologne and water.

A similar line of treatment may be adopted in herpes zoster; and we should be careful to avoid in this complaint anything likely to irritate the vesicles or to interfere with their natural termination. The eruption in the adult is sometimes associated with rheumatism, in which case salines with colchicum will prove of service. The ulcerations, to which allusion has been made, when obstinate and painful, are often relieved by the use as an ointment of belladonna or conium, or by powdered morphia applied to the surface, in the proportion of from one to two grains to an

ounce of lard: with their employment the general health should be attended to. Sometimes the pain is excessive, or continues in spite of any local measures. It may then be a question, whether division of the nerve leading to the seat of pain might not be tried: and in one case, to my knowledge, this procedure was of signal service. The neuralgia at once ceased, and never returned. The case occurred in Mr. Startin's private practice, in a gentleman who had resided several years in India. Various remedies had been adopted from time to time, but with no result; at length section of the nerve was suggested and acted upon, with the best effect.

Herpes circinatus
or tinea
tondens.

Herpes circinatus or *tinea tondens*.—Bazin and other French writers comprise herpes circinatus, tinea tondens, and sycosis under one head. They also assert that these affections are produced by one and the same parasite, the *trycophyton tonsurans*, or more properly, *trycophyton Malmsten*, named after its Swedish discoverer. Regarding herpes circinatus or ringworm, as a disease situated on the trunk or extremities, which it is generally allowed to be, while tinea tondens affects the scalp; their coexistence is so frequent, and their characters so alike, that their absolute similarity almost ceases to be a matter of speculation. Sycosis is a complaint well nigh peculiar to the male, after the period of puberty, and confined in most cases to the hair of the face. Leaving the question of its cryptogamic origin to be discussed in its proper place, this disease is expressly limited in its action to the bulbous portion of the hair, and does not appear above the level of the skin. In these important respects, it so greatly

differs from 'ringworm,' that it may be considered as a distinct malady.

It is now some years since that my attention was first attracted to the two following cases, which forcibly illustrated the similarity of the two affections, which yet retain a duality of name. One was that of a boy, seven years old, with 'herpes circinatus,' on the metacarpal space of the right hand, and with a patch likewise of 'tinea tondens' on the occiput; in the other, also an out-patient of the hospital, a woman, aged thirty years, was admitted with the characteristic ring of 'herpes' circinatus on the middle of the right forearm. She was the mother of three boys, each of whom became afterwards affected with 'tinea tondens' of the scalp. There could be no doubt that these were instances of one and the same complaint, which had obviously spread by contagion; nor can they be regarded any longer as exceptional. Opportunities have since occurred to me of witnessing a great number of cases of herpes circinatus in children; and so common is the coexistence of these complaints, that about one in every five afforded an example of the above complication. And as if to complete their identity, the eruption would sometimes be seen on the nape of the neck, in part covered with hair, and in part nearly destitute of this additional protection.

Identity of
these
diseases.

At its commencement, herpes circinatus consists of a group of minute transparent vesicles, developed on a red patch, which is seldom larger than a split-pea in diameter. In many cases, and particularly on an exposed surface as the face or neck, the vesicles rapidly shrivel and dry, and we observe only a red spot, rough with small whitish scales, the *débris* of the vesicles; it retains its redness under pressure, and is distinctly

Course of
H. circi-
natus.

elevated. Sometimes irregular, it more generally inclines to a circular shape, and is attended by considerable pruritus. This last character may be overlooked in children, but is invariably present in the adult, and occasionally severe. There are no premonitory symptoms, such as commonly denote the accession of herpes zoster, from which, as well as the other varieties, herpes circinatus is quite distinct. The scales vary with the quality of the original secretion, and are white, or have a yellowish tinge. At this period the vesicular stage has wholly disappeared. Should the disease continue, it enlarges at its circumference, which is then wont to assume the form of a circle, composed solely of vesicles; while the area loses by degrees its scales, and appears healthy. In some cases the ring is imperfect, or approaches an elliptical or reniform outline, especially if situated over one of the larger joints; and on the trunk it is not uncommon to note one or more irregular figures, consisting of as many different segments, severally united at their extremities. On the limbs, or where the part is covered by the clothes, the vesicular character is more persistent, and the spot or patch is often much raised, and to be felt by passing the finger across it.

Tinea
tondens.

Tinea tondens of the Scalp.—Among its early signs, there is generally noticed a patch seemingly bare, but which on closer inspection is found to exhibit a number of short, or broken-off hairs, growing irregularly from its surface. The latter, although sometimes of its natural colour, is more frequently rough and grey, like goose-skin, and often covered with a kind of scurf, very adherent to the scalp, and difficult of removal. It is the occurrence of such a spot, which in many instances

first attracts the attention of whoever has charge of the patient, particularly if the complaint be near the forehead or along the parting of the hair, where it is readily observed. On continuing our research, we may sometimes discover, in addition to the above appearances, one or more smaller patches, dotted with white or whitish yellow crusts, the remains of vesicles, and traversed in the ordinary way by hair, which as yet is unchanged; the bulb may be irregular, but the shaft offers no sign of disease, and the same difficulty to its extraction remains as in a healthy state; or still smaller spots, only of a reddish hue, may be perceived, and in either case the affected part seldom exceeds in diameter that of a split-pea. These I regard as the primary stages of the disease, soon to assume, if let alone, the condition first described, in which the stunted hair gives to the eruption its peculiar character. In the latter, the patch will vary in extent from a sixpence to a crown-piece, or larger, and in most examples, several like places may be met with on different portions of the scalp. Examining the hair thus affected, with or even without the aid of a lens, it is seen to be broken off at a short distance from its root, and more or less twisted; so brittle in texture as often to snap when extraction is attempted. Under the microscope, the hair is seen to be loaded within and without with spores; these are arranged longitudinally to its axis, but in an irregular manner. They are circular, less often oval, and contain a granular or imperfect nucleolus. In size, according to Malmsten, they vary from 0.003 to 0.007 mm. Similar results are also obtainable in the crusts on the surface.

Its early
symptoms.

Besides the above appearance of the hair, as recog-

Its various
forms.

nised by its shortened growth, there are other conditions no less diagnostic of tinea tonsdens, which offer to the naked eye, symptoms widely different from those already described. They are the consequence either of a relapse, or a chronic state of the complaint. In many cases, the eruption, although partially yielding to treatment, after a time acquires a character not unlike chronic eczema in the size and colour of the scales; they are detached from the scalp with much less difficulty than usually happens in tinea tonsdens, but with them are included one or more hairs, which are often enveloped in a kind of scaly sheath. Viewed with the microscope, the hair is surrounded with a growth, composed largely of spores, although they seldom appear to enter into its structure.

Should the complaint be left to itself, or become yet more chronic, other changes follow. Among the most evident may be named the density and whiteness of the covering, which overlays the affected part, and gives to the surface an appearance much resembling psoriasis. It is more readily separated than might be expected, but not so the hair, the greater part of which is stunted and imbedded in the new tissue. When, however, a few hairs are removed, and placed under the microscope, the disintegration is observed to be almost complete. At this advanced stage, it will be found to have lost its smooth exterior, which is split into fragments; the natural outline of the bulb has vanished, and what remains is scarcely distinguishable from the rest of the shaft, except that at this part the spores are more numerous than elsewhere. Not only do they encircle the hair, and pass between its fibrillæ, but some may be even observed at its broken-off extremity.

Closely allied to the condition just described, and

differing from it only in degree, is that sequence of the complaint, which shows an essentially confirmed stage. In these cases, the crust is so adherent to the surface as to be scarcely separable. It is penetrated by short hair, sometimes intermingled with long, but the former is greatly in excess. Little or no irritation attends the disease, and the scales are less easily shed than in other examples, but if removed by force are quickly renewed. The hair is entangled in the crust, and when extracted exhibits a mass of spores inside and outside; the shaft is so brittle that the line of fracture, when the forceps has been applied, is readily distinguished.

Although the preceding may be taken to denote the more ordinary forms of *tinea tondens*, varying with the stage and progress of the disease, departures from them are nevertheless of occasional occurrence. Thus an apparent recovery may be succeeded by an eruption of small scales or laminae, sufficiently thick to conceal the surface of the skin, and occupying the greater portion of the scalp. The hair is unaffected, and whether in lustre or quantity cannot be distinguished from that on any surrounding part, which has hitherto escaped. No evidence of disease is afforded by the hair, when subjected to microscopical enquiry, and the scales are likewise devoid of any vegetable parasite. The rapidity with which this change may be effected is remarkable, and in the course of a single month I have known the whole scalp to exhibit the above signs, when, a few weeks before, no vestige of *tinea tondens* could be traced. Again, a relapse is sometimes indicated by a white powder or scurf, only more abundant towards the centre than the circumference of the patch, and most troublesome to remove. Here the microscope

shows a degree of destruction as regards the hair, not much inferior to that severe kind previously referred to, and which otherwise might scarcely be suspected.

Permanent baldness is stated to be a consequence of *tinea tonsdens*. This, in my experience, is rare; and more frequently a result of the remedy, as when strong caustic agents have been applied, than of the actual disease. In its progress towards recovery, the affected patch is rough, and in places faintly red; the hair follicles are also enlarged and prominent. The redness afterwards disappears, and the surface is left of an ashy grey, which distinguishes it from the surrounding healthy skin. As soon as the new hair has commenced to grow, it is strong, and not easily pulled out: it is as yet scanty, and generally of a lighter colour than the old. Under the microscope the bulb is more or less fusiform, and the lower part of the shaft is often very irregular, but it is neither broken nor does it display any fungoid characters.

There is a variety of 'ringworm,' very common in hot climates, and distinguished by its specially selecting the genitals, and adjacent aspect of the thighs. From these parts, it may be generally traced along the perineum to the buttocks. Next to this in frequency, the feet or rather the toes are apt to be affected, or a large patch may be seen encroaching on the sole. In any case, the disease is remarkable for the abruptness of its border, sufficiently distinct to separate it from the surrounding skin. It commences as small red patches, which rapidly enlarge, often showing a marked increase, even in a few hours, and then its true ring-like character becomes apparent; it is also rough from the presence of small scales, and some itching is felt. As the complaint

becomes chronic, it loses in many instances much of its circular form. I have met with examples, in which the eruption, which is beyond doubt contagious, has been contracted in this country, but in the greater number, it has originated in India or China.

Having thus far passed in review the various phases of tinea tonsdens, as they occur, modified by time and treatment, the influence they exert on the question of more or less prolonged recovery, now remains for enquiry. It may be assumed, as a very general proposition, that this point is greatly determined by noticing the adherent character of the scales, rather than their size, distribution or extent: for so long as they are allowed to accumulate or continue, the prospect of improvement will be indefinitely postponed. Another link is added to the same chain, when the hair already short or broken off is firmly encased in scurf, and only separated with difficulty. These signs, apart from any microscopical investigation, will enable us to arrive at a conclusion opposed to an early amendment of the complaint. In those instances of a relapse, which have proceeded with little let or hindrance, and which often resemble chronic eczema or psoriasis, I would observe that in either case, where the crusts admit of easy separation, and the hairs no longer shortened are extracted entire, a more favourable opinion may be expressed; and should any doubt exist, the microscope will furnish proof of the freedom of the hair from disease, or the restriction of the cryptogame outside the shaft, rather than within it.

No doubt remains, that the complaint is caused by Causes. contagion, which is mostly received by direct contact. Circumstances, also render it highly probable, that the sporules may be transmitted by the air, and it has been

shown by experiment, that these same bodies are capable of disseminating the disease by inoculation. When a number of children are collected together, as for example in a school, the eruption often spreads rapidly; but among the elder members, although they are exposed to the same risk, its influence is less observed. In the event, however, of its occurrence in the latter, the restriction of the complaint to the body and limbs, rather than to the scalp, its chief seat of selection in early life, is a singular feature of its history, and one hitherto unexplained. The affection is uninfluenced by the seasons, and although more usually attributed to boys than girls, a sufficient explanation is afforded in the increased risk of communication among them, and not to any real exemption in the female. Of the most frequent modes of transmission by contact, may be instanced the use of a cap or a comb of a patient by a second person; while still more direct evidence is supplied by the disease, when it is conveyed by the back of the hand to the head in the same individual. Besides these sources of contagion, *tinea tonsdens* is occasionally propagated to the human species from one of the lower animals, and in particular those in domestic use, as the dog or cat. Some time ago, a patient came under my care with an obstinate patch of this disease on the wrist, evidently contracted from a calf, which was extensively affected in the same manner. A like eruption is not uncommon in horses, and most of all in colts, when they are what is termed 'out of condition;' in these examples, it is the young which chiefly suffer, and the eruption is mainly seen about the face, neck, and ears. I may further remark, that the property of contagion is supposed to lurk in the garments belonging to the attendants of such

animals, and those who have had much experience of the kind are careful to prevent their sleeves from coming into close contact with a diseased surface. As a proximate cause among the working population in Paris, Hardy cites the want of ablution, which, by permitting the perspiration and dust to collect, favour the development and growth of the parasite. But something more than this is required to explain its origin, since *tinea tonsdens* is by no means limited to one or any class of society. As far as my observations extend, they decisively show that 'ringworm' is a far more frequent complaint among the higher or middle, than the lower ranks of life. It cannot be said like *favus* to be an accompaniment of poverty. The spread of the eruption is, in no degree, restricted to the sickly or destitute, although in certain cases these would appear severely affected.

Tinea tonsdens is to be diagnosed from alopecia by the smooth appearance which the latter exhibits, as well as by the absence of all broken hair, and in its being non-contagious; from the squamous diseases of the scalp, it differs in the circumscribed character of the implicated part, and in the larger and thicker scales, which are presented by psoriasis. The same limited extent of surface will also distinguish it from pityriasis, which, like the last named eruption, is unaccompanied by any change in the texture of the hair involved. Sometimes, in pompholyx, a ring of vesicles may be seen surrounding a central small scab; or crusts are formed on the back of the head or in other parts; but the vesicles are essentially larger, and the disease is seldom so circumscribed as in herpes.

Diagnosis.

Tinea tonsdens is a disease which, unless it has become very chronic and extensive, generally yields readily to treatment. It is only necessary to apply to the part, a stimulant sufficiently strong to act on the parasite, without obliterating the hair follicle. For this purpose, the common sulphur ointment is an excellent remedy. The usual mode of treatment at the Skin Hospital is to blister the diseased surface with the 'liquor vesicatorius,' or the glacial acetic acid, lightly applied; and when its effects have subsided, a mercurial ointment, from half to a drachm. of the ammonio-chloride of mercury to an ounce of cerate, is used morning and evening. In slight cases, a single trial of the blistering fluid will often suffice. In the adult, a preparation of mercury, as the above, is preferable to more active means; or in children, when the complaint occupies the trunk, and comprises a tolerably large area.

From the susceptibility of tinea tonsdens to spread to other patients, it is advisable, in the event of a child becoming affected with it, to keep him apart from his playmates for some days; and in an older subject, if the eruption be general, he should be made to avoid all risk of communicating it to others. When limited to a single patch, after the surface has been blistered, or treated in the manner just directed, it will be enough for the patient to wear some kind of covering, for protection.

In strumous patients, tinea tonsdens is sometimes an obstinate affection. The disease seems arrested at a certain point, but makes slow progress towards recovery. Small boils will also frequently arise on or near the patch. Cod-liver oil may be administered with good

effect in these cases; and sometimes arsenic, given internally, has proved of service. Any hairs covering the boils should be extracted, which is easily done when suppuration has taken place in them.

CHAPTER IX.

POMPHOLYX.

General
characters.

POMPHOLYX or *Pemphigus* is known by an eruption of bullæ, which at first are very minute, and resemble ordinary vesicles. In their progress they vary considerably. Generally hemispherical, they may, by their confluence, assume great irregularity in shape, and attain a diameter of several inches in extent. The fluid in the bullæ is always clear and transparent at an early period ; it may maintain this character throughout its course, but more frequently becomes turbid or sero-purulent, or mixed with flakes of lymph. At either extreme of life, or in unhealthy subjects, the same secretion is sometimes tinged with blood. The walls of the bullæ are thin, and easily yield to the pressure of their contents or to slight force.

Chemical
composition of the
fluid.

The fluid, as long as it is limpid, is neutral or alkaline. It readily coagulates by heat, and becomes nearly solid on the addition of nitric acid. An analysis has been made by Simon and Haller, who agree in the large proportion of water it contains, being no less than 940 or 955·80 in 1,000 parts. As might be expected, albumen is present in much quantity, and together with the earthy phosphates is estimated by Simon at 48 parts in 1,000, which leaves only 12 to include the fat, cholesterine, extractive and other matters.

As an *acute* affection, pompholyx is generally local, and appears on the hands, face, or soles of the feet; bullæ are rapidly developed, and their growth is commonly completed in twenty-four or thirty-six hours. Previous to their formation the skin is sometimes stained with red patches, which are the seat of considerable irritation. Having reached a certain size, many of the bullæ remain separate, or they coalesce with others; in either case, if the skin be unbroken, crusts are formed on the surface, of varying consistence, thickness, and colour, according to the nature of the secretion. Should they have burst spontaneously at an early stage, the bleb is often reduced to a thin piece of shrivelled cuticle, and the surface beneath is red and tender, especially if the bullæ have been torn. Left to itself, the skin soon regains its natural state, the preparatory change being denoted by a cuticular desquamation. Sometimes pompholyx is ushered in by symptoms of constitutional disturbance, and occasional bullæ will often arise after the original blebs have disappeared. In the course of three or four weeks this kind of pompholyx will usually have run its career.

Acute
pompho-
lyx.

As a more *general* disease, pompholyx seldom terminates so speedily. Successive crops of bullæ will appear, and thus prolong the complaint for many weeks, or it may be indefinitely. In some cases we may judge of the probable extent and severity of an attack, from the duration of the previous premonitory symptoms, which may comprise a period of several months; it is no uncommon occurrence for the mouth and soft palate to be similarly affected. After the disease is on the wane, an uniform dryness of the affected surface is usually observed; and on closer inspection, a number of oval

General
pompho-
lyx.

or round patches, smooth and pale red, which have succeeded to the bullæ; in the intervals between them, the cuticle is semi-detached or rough, like the thin scales of eczema, and oftentimes of a brownish hue. This change of colour is most marked where the skin is soft, as the inner aspect of the thighs or the dorsal surface of the feet. Any former irritation has now, in a great degree, subsided, but sometimes a burning sensation is experienced in the part towards evening; and as the skin recovers itself, it is apt to present a number of small but painful furunculi, each surrounded with a hard and red margin. Even when almost universal, the palmar aspect of the hands and the soles of the feet will be often free from bullæ, although they share in the general renewal of the cuticle, which afterwards takes place.

Pompholyx may terminate fatally, but such instances are rare. The most severe case that has come to my knowledge was communicated to me by a professional friend, from whose notes I extract the following:—‘The patient had always enjoyed excellent health to the time of puberty, but soon after this period she began to be feverish and languid. Removed for change of air, an eruption was observed one morning; it had become developed in the course of the night, on her chin; and of its true nature there could be no doubt. In the course of three weeks the disease had extended over the whole body, from the head to the toes, and specimens of the eruption might be seen in every stage. The bullæ ranged in diameter from sixpence to a crown-piece; some had discharged their serum, and in others the cuticle had been torn off with the dressings. The meatus of the ears, the inside of

the nostrils, the conjunctiva, whether of the eyes or lids, were covered, as well as the mucous membrane of the mouth: the upper and under surface of the tongue, the back of the pharynx and soft palate, all were thickly studded with bullæ. I am quite convinced that the whole mucous track throughout the alimentary canal was similarly affected. She suffered great pain in her limbs and joints, and this quite independently of the sores arising from the state of the cuticle. It is now five years since the disease commenced, and during the last twelve months the eruption has declined. The skin is at this time (December, 1865) free, except that some ecthymatous pustules occasionally appear. Owing to adhesions having formed between the eyelid and the globe, total loss of sight has resulted in one eye; and as the other is nearly in a similar condition, the patient is only able to distinguish light from darkness.'

In *pompholyx diutinus* of children, the first sign is usually an eruption of several minute red spots on the surface, generally on the abdomen and thighs, and afterwards on any part of the body. In the course of a day or two, each becomes the seat of a small vesicle, not larger than a pin's head, and contains a clear fluid. It is surrounded with a narrow red margin, and unless care be taken in the search, is very likely to be overlooked. The vesicles enlarge rapidly, and to such a degree as to attain, many of them, the diameter of a hazel-nut in the space of twenty-four hours or less. It not unfrequently happens, that long ere the vesicle has reached this size, it bursts, but the red patch on which it was evolved still spreads, and in a circular direction; in this manner it may attain one and a half

Pompho-
lyx diu-
tinus.

inches or more in diameter. Further changes now ensue. The bleb may either shrivel or dry up in two or three days, and leave no trace, except a slightly rough and red spot, which at first sight might be mistaken for psoriasis; or it assumes a dark and somewhat wrinkled condition, adherent to the skin, and surrounded by a red margin, and like, in character, to ecthyma, save in the thinness of its crust; or, the border will show a narrow and raised rim, the remains of the bleb. These different conditions may very frequently be observed, at one and the same time, on various parts of the body. The general health is unaffected, and often remarkably good. The local irritation is not severe, and only experienced at night.

In another class of cases, the disease is in like manner denoted by blebs which rapidly form in the course of a single night, and are neither preceded nor accompanied by any reddened state of the skin. The bleb may resemble an ordinary blister in appearance, and contain a clear serum; or acquire great variety of colour, and partake of a dark or purple hue. The tendency of the blebs in this variety of pompholyx is to pass into a purulent or semi-purulent state; and in either case, the crusts, which succeed in three or four days, are characterised by thickness and irregularity. They are mostly of a yellow or brownish colour, and the vesicles from which they originate are without any inflamed base. In some places, considerable patches are seen, consisting of blebs, which have been united together. The later characters vary with the condition of the bleb; thus, if of a purplish tinge, a white but superficial cicatrix commonly supplies its former place; otherwise, a red stain alone is seen, which

finally disappears. Sometimes a red and thickened state of the integument occupies the site of the original bleb.

A curious form of *pompholyx diutinus* is sometimes observed on the palm of the hand, and involves the fingers even to their extremities. The blebs are of small size, ranging downwards from that of a pea, and appear imbedded in the skin; along the fingers they are very minute. A noteworthy feature of this species, which I have met with only in the adult, is the large amount of perspiration, which attends the affected surface in an early stage of the disease; it is literally bathed with the perspiratory secretion. The hand at this period is also much swollen, and considerable itching and heat are felt. As the eruption declines, the part is left for some time red; and when the smaller blebs have at length disappeared, a number of superficial circular depressions for some time remain, surrounded by a slight ring of thin cuticle.

The term *solitary pompholyx* is used by Willan to express that species, which is limited to a single bulla. This author states, that it sometimes acquires the size of a hen's egg, a condition I have never seen. As soon as its course is ended, which generally happens in a few days, another bulla takes its place, either on the original site or in the vicinity; and thus the complaint may be continued for several weeks or months. The disease is a rare one, and generally affects women; it closely resembles, as Willan remarks, the effect produced by a blistering plaster. I remember an instance some years ago of a young woman, an in-patient at the Skin Hospital under the care of Mr. Startin, who thus produced several bullæ. At length it was discovered,

Solitary
pompho-
lyx.

that she was accustomed to apply at night a small cantharides blister, by which means she endeavoured to impose.

Syphilitic
pompho-
lyx.

As a *syphilitic* complaint, the existence of which has been questioned on insufficient authority, pompholyx is rare. It manifests itself in various ways. It may commence as an eruption of hard shining tubercles, which rapidly enlarge, and are of the same uniform dull red tint. They chiefly occur on the upper extremities and face; only in the latter situation, they are relatively smaller. Their shape is circular, and they range in size from a pea to that of a walnut. At the expiration of a week or ten days, fluctuation can be felt in the larger swellings, and, if a puncture be made, a sero-purulent fluid escapes. The tumours are soon converted into blebs, and present all the characteristics of acute pompholyx. The following instance will serve as an illustration of this variety:—

E. D., a middle-aged unmarried woman, was admitted an in-patient, under Mr. Startin, October 15, 1863. The disease at that date presented a singular appearance, and was situated on the lower third of the back of each forearm. Some of the spots were about a quarter of an inch in diameter, and mostly circular; others were nearly as large as a florin, and irregularly oval. All, except the largest, were considerably raised, and appeared not unlike red boils; their surface was also quite smooth. A few spots also of the same character were visible on the cheeks and forehead. She stated that an eruption of a similar nature in every respect appeared about four years ago, and again returned a twelvemonth since. The complaint occurred in the same situation, but was not so severe. The recent attack was of only six days' duration, and commenced as pimples, of the size of a small currant; some of them shortly united and formed large lumps. She always felt ill for a week or ten days prior to the outbreak, with depression of spirits and a feeling of lassitude.

She was ordered full meat diet: a teaspoonful in water of the mist. hydrargyri to be taken twice a day (one drachm contains the eighth of a grain of the bichloride of mercury and three grains of

the iodide of potassium); to apply at night the unguent. rubrum, and to use in the day a lotion of the oxide of zinc and water. October 17. The swellings were much altered in character, and of a yellowish colour. The disease was evidently spreading. 19th. Lumps more pustular, and many of them confluent. 22nd. A large bleb, an inch and a half in its long diameter and one inch in its transverse, appeared yesterday morning on the right arm; most of the others have coalesced, and are covered with thin crusts. 26th. No farther change. The arms are covered with thin scales of a dark colour, caused by the zinc lotion. Irritation much less. 29th. Much better; face and arms nearly well. November 9th. Face is perfectly smooth; arms slightly rough. To be discharged.

In early life we sometimes meet with syphilitic pompholyx showing a condition the reverse of the preceding, as in the undermentioned case. H. B., an apparently healthy and well-nourished child, was brought to the Skin Hospital under my care, with a number of raised flat elevations, from a pea to a horse-bean in size, scattered over the trunk and extremities; some were even found on the scalp and the soles of the feet. Their general shape was oval, but several were irregular, from having become fused. Their colour was reddish, with a brown tint at the circumference. On the inside of the left arm, just above the elbow, was a distinct bleb, of the size of an ordinary marble, distended with clear fluid. His mother said that the majority of the swellings were originally bullæ; and this statement received confirmation from the fact, that small dark crusts might be perceived on the central part of some of the elevations.

In early life, pompholyx affects both sexes in nearly Causes. the same ratio, but after puberty, women are more frequently subject to it. Whatever the remote cause, the disease is apt to be reproduced through the agency of any powerful impression, as excessive mental anxiety

or grief; and I have known instances of a relapse on the occasion of each successive pregnancy. In women also, it is often associated with a delay in the proper return of the catamenia, and this may continue for several months. It is not hereditary.

Diagnosis. As it is to the presence of bullæ, that pompholyx owes its chief characteristic, the diagnosis will mainly depend on the facility or otherwise with which they are detected. In many cases, and particularly when the disease is more or less general, the different stages of its development are exhibited at one and the same time; there is then no difficulty in tracing the course of the eruption from its commencement to its maturity, and from the latter stage to its decline. Even in those instances, in which the complaint might be supposed to be impetigo, from the size of the scabs and their yellow appearance, a careful examination will seldom fail to detect bullæ in their primary, or at least in their opaque stage. When by the confluence of the scabs, large irregular incrustations have resulted, the margin of the latter often exhibits a similar or vesicular character. The final disappearance of the bullæ, and their termination in rough, circular, or oval patches, might suggest the idea of a scaly disease, but an inquiry into the history will dispose of any doubt that might be entertained on this point. In certain cases, however, when the pompholyx has been of a purely local kind, as on the mouth, cheeks, or hands, a roughness remains, which so closely resembles eczema, as to be readily mistaken for it, in its chronic stage. In these examples, it is a knowledge of the previous condition, which alone can enable us to arrive at a correct conclusion. Pompholyx differs from erysipelas, in the absence of surround-

ing inflammation or infiltration of the integument ; and from rupia, in its thicker and more prominent crusts, with more or less attendant ulceration. The vesicles of herpes are arranged in clusters, and seldom so large as in pompholyx.

The constitutional treatment of ordinary pompholyx Treatment.
in an acute stage should be conducted on the same principles which guide our treatment in other cutaneous affections during a similar period. The administration of antimony is seldom required ; and in the choice of saline purgatives, we should select those of a mild description ; or at any rate employ them in smaller doses, than in the more severe and inflammatory stages of eczema or psoriasis. In common with other vesicular diseases, acute pompholyx runs a certain course. If the blebs be of large size, we may puncture them with a fine needle, and sprinkle the surface, as in herpes, with powdered starch. The irritation is most relieved by a lotion of the oxide of zinc : a drachm, with a like quantity of calamine powder and two drachms of glycerine, in four ounces of water. Clean linen or cotton rags dipped in the lotion should be constantly applied, as long as the disease continues.

In a second description of cases, when the disease is of a more general character and also severe, in which blebs are constantly forming on the genitals and other regions, we may have recourse to similar local measures ; but the constitutional treatment should be of a different kind. Although these symptoms frequently seem to be of a syphilitic nature, they are seldom benefited by mercury. Arsenic, on the other hand, is an agent from the internal use of which, great amendment often follows ; and instances of pompholyx, which have been

subject to alternations of improvement and relapse for a lengthened period, will sometimes, under such treatment, become to all appearance free from further trace of disease. In early life or before puberty, the liquor sodæ arsenitis in doses, from two to six minims, may be given twice a day, and at this age is to be preferred to the liquor potassæ arsenitis. My own experience of the use of arsenic in this form of pompholyx is, that it is of the greatest service in the adult, but that in infancy or childhood it too frequently proves powerless in preventing a relapse. Cases have come under my care in which, within a short time after apparent recovery, the disease had returned to its original state; and I have known other examples, in which arsenic has been persevered with, but only served to keep the eruption in check.

CHAPTER X.

PORRIGO.

THE custom, heretofore, of arranging under a single denomination, diseases which are essentially distinct, is perhaps nowhere more apparent than in the so-called varieties of *Porrigo*. In proof of this, I have only to mention the ‘six specific forms,’ according to Willan, of the complaint which heads the present chapter. The ill effects of this nomenclature are, in many instances, perpetuated to this day; and the expressions *Porrigo favosa* (favus), and *Porrigo decalvans* (alopecia), suggest or at least imply, the idea of affections, which possess something more in common than a prefix to their name; and yet none can be more unlike in their history, course, and termination.

General
characters.

In describing porrigo, I purpose to limit its signification to one disease, and accept the definition of it as proposed by Mr. Startin, viz., that it consists of an eruption of large flat pustules, covered with thick crusts, and is contagious; it occurs on an otherwise sound skin, without a surrounding inflammatory base.

The division of porrigo into *P. simplex*, *P. larvalis*, and *P. scutulata*, is an arbitrary arrangement, arising from certain peculiarities in form which the disease presents. Thus it is styled *Porrigo larvalis*, when by the union of the crusts on the face, it bears a kind of

Varieties.

resemblance to a mask. The eruption in this case generally involves the cheeks and part of the nose in a single mass; or the same character may be equally assumed, when the forehead and eyebrows are simultaneously attacked. *Porrigo scutulata* is merely a term for the complaint, in any case distinguished by the crusts being large and shield-shaped; they are often, as it were, stuck on to the surface, like so many pieces of mortar or mud. In *Porrigo simplex* the disease is seen in its mildest stage.

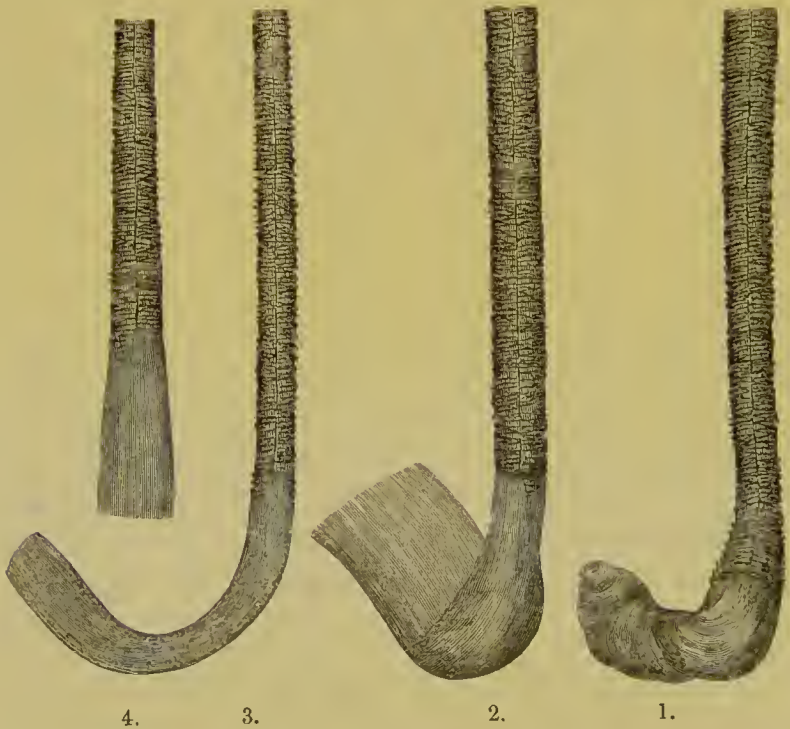
Symptoms. The earliest sign of porrigo is shown by an eruption of small flat pustules, not much raised, and containing, at first, a thin yellowish fluid, which soon concretes; and to the successive secretions in the pustule, the resulting scab owes its size and prominence. So rapid is the change in this respect, that four or five days will often suffice to render the disease complete, in all that concerns its external characters. When situated on the scalp, the pustules are usually distinct, the intervening portion of skin being quite healthy. In this region they mostly select the occiput, and less frequently commence on any other portion, although the lateral and frontal parts of the scalp may become successively involved. The disease is easily recognised in many cases by simply placing the hand over the affected surface, when the characteristic elevations are at once detected. An enlargement of the cervical glands is another symptom, which commonly attracts the notice of the patient, or rather the parent of the child attacked; sometimes one or two only are enlarged, but more generally they may be felt as a chain along the inner border of the sterno-mastoid muscle; after attaining a certain size, they often remain quiescent

for months, and finally disappear. Frequently we find, coincident with the complaint in the above locality, one or more of the fingers presenting at their extremities, or near the knuckles, painful boils or whitlows. Next in frequency to its occurrence on the scalp, and sometimes co-existent with it, is a similar eruption on the lips, chin, cheeks, or forehead; or any one of these localities may be alone affected. The disease quickly spreads, and if allowed to continue unchecked, the scalp, supposing this to be involved, shows a mass of thick crusts or scabs matting together the roots of the hair, besides emitting oftentimes an offensive smell. In other cases the loins are the seat of porrigo, just above the buttocks, and in this situation the pustules are mostly separate. As the crusts dry, fragments of them become detached, and loose masses are often found scattered among the hair, where this is implicated; they are not, however, of the thin, yellow, or scaly character, which so distinguishes eczema in its final stage. Although they are renewed, if the scales fall off at an early period, or become otherwise detached, the subjacent skin is only thin and reddened, seldom is it ulcerated. The patient complains of irritation and itching of the part, but this is not severe; nor is there, except in extreme cases, any signs of constitutional disturbance.

Although I have been unable to discover a parasite (vegetable) in porrigo, the hair exhibits, in a vast number of cases, the following curious condition, which is not seen, as far as I know, in any other affection:—the bulb loses its natural shape altogether; it becomes flattened, and expands into a broad and thin plane, which terminates in an even edge. In the figs. 2, 3,

Micro-
scopical
characters
of the hair.

and 4, the expansion of the hair bulb is very evident. Fig. 1 is club-shaped at the root, but this character is witnessed in other cutaneous complaints. The lower part of each hair, extending to the bulb, exhibits a



series of irregular rings; but this again, is not peculiar to porrigo, although well exemplified in this disease.

Ratio between the sexes.

Porrigo is a complaint most common in childhood or in infancy. It attacks both sexes in a nearly equal degree. Of 400 cases, in Mr. Startin's practice at the Skin Hospital, which occurred between the middle of June, 1860, and the end of January, 1863, I found 204 were females and 196 males; a difference of only 19:20 between the two sexes. In this estimate no account is taken of another and considerable class, in

which the disease has spread to the other members of the family. I have recorded those cases only which have presented themselves at the hospital, and were under my own observation there.

The various periods of life, at which the development of porrigo took place, is exhibited in the annexed table. Of 400 cases

292	occurred at and under the age of 7 years.
46	between 7 and 14 years of age.
35	„ 14 „ 21 „
27	above the age of 21 years.

Age of its occurrence.

The greatest age at which it occurred was that in a man aged fifty-five years. The remainder were all below forty years. Of the 292 instances, 65 took place within the first year; the youngest being six weeks.

The diseases mostly associated with porrigo are scabies, eczema and pediculi. The first is easily explained, when we recollect how often the irritation consequent on scabies sets up latent affections of the skin, and its frequency in the poorer classes. Eighteen cases are described in the above total, as thus complicated; they may happen at any age from four months to forty years. Eczema was observed as an accompaniment of porrigo in 20 instances, which gives the ratio of its complication exactly as 1 : 20. The occurrence of pediculi will excite no surprise among those accustomed to hospital practice, as in children especially, attention is too often paid to the length of the hair at the expense of its cleanliness.

Complications.

The causes of porrigo are obscure. In many cases, the disease is communicated from one child to another, but it is seldom observed to extend to the elder members of the family. Uncleanliness predisposes to the com-

Causes.

plaint, which though sometimes seen in the so-called better classes of society, is rare in them, when compared with the poor and destitute. Dentition seems to act as an influential cause in many instances, and sometimes the febrile disturbance excited by vaccination is regarded as such.

Diagnosis.

In most cases of porrigo, the disease is readily distinguished. The peculiar appearance of the scab, and the absence of any inflamed areola, unless the part has been irritated, distinguish it from the rest of the pustular group. In impetigo the pustules are small, and like rupia, are situated on a red ground. The latter complaint is, however, generally attended by constitutional derangement; it is moreover non-contagious, and as a rule, accompanied by more or less ulceration. When impetiginous eczema affects the scalp in children, and is at the same time severe, it occupies almost the whole surface, and the discharge is considerable. This is seldom the case in porrigo. When the latter is modified by struma or syphilis a difficulty may occur with respect to its diagnosis. Strumous porrigo often produces extensive but superficial ulceration of the affected part, as well as other symptoms denoting a scrofulous taint.

Prognosis.

However unsightly the appearance of the disease may be from the size and number of the crusts, there are few cutaneous complaints, which are sooner benefited by proper treatment than porrigo. Two or three weeks will often work a material change in this respect; the scabs are then no longer found, and only a reddened surface is left, to denote their former locality. The hair suffers at most but a temporary loss, should the complaint affect any portion of the scalp. I have, how-

ever, seen some few instances in private, in which the complaint affecting this part has been exceedingly obstinate, and bald, uneven, and irregular places have long remained, although the disease had otherwise disappeared. On no account should the enlarged glands be interfered with, provided they remain hard, and the skin over them unchanged, as they rarely lead to supuration. If based on syphilis or struma, porrigo is then more difficult to subdue, and no such speedy relief should be anticipated, as when it occurs in its ordinary form.

If the hair be implicated and collected together in cakes, it should be at once cut short; this ought always to be the first step, and it will not only afford great comfort to the patient, but materially facilitate the local treatment. The surface should then be washed with the yolk of egg, and afterwards cleansed with warm water, or thin oatmeal gruel may be substituted to remove the crusts entirely: and as often as the latter re-form, which they are much disposed to do, the same process should be repeated. When hard and thick, their removal should be hastened by applying a little salad or olive oil at bedtime, and over that a large linseed poultice. No remedy, in my experience, answers so well as a sulphur ointment containing from ten to fifteen grains of the iodide, or double this amount of the precipitated sulphur to an ounce of cerate; or even a less proportion, should the skin be extremely sensitive. The compound sulphur ointment of the London Pharmacopœia is also very serviceable, and little inferior to the preceding. As the disease is eminently contagious, and likely, in the case of children, to affect the head or face, and in the adult to occasion

Treatment.

whitlows, certain measures of precaution, to lessen such a risk, should be tried. It is therefore recommended for a child to wear at night a thick cap, of a kind easily washed, having previously applied one or other of the ointments just referred to, and which, in a severe instance, should be again employed in the morning. There is no need, unless scabies be present, to fumigate the clothes. The internal treatment should be directed solely to the improvement of the general health. Sometimes the use of a mild mercurial ointment, as the *unguentum hydrargi nitratis dil.*, seems to have most effect in promoting cicatrization. In strumous porrigo cod-liver oil internally, or cinchona in decoction with a mineral acid, should be prescribed.

CHAPTER XI.

IMPETIGO.

IMPETIGO is a complaint characterised by small or psydraceous pustules, distinctly yellow, and seated on a red base. Occasionally isolated, they are more commonly found in clusters, and thus constitute a well-defined patch, often irregular in shape, and indefinite in size. The disease is highly inflammatory, and attended by considerable heat and itching of the affected part.

General
characters.

Impetigo is not communicable by contagion. As a result of eczema, and affecting the scalp, it is frequent in early life, and at this age is recognized by its pustular character. The pustules may be closely packed, or more widely separated; in either case, should they be detached, slight ulceration of the skin may be seen, secreting a thin and yellow fluid, which rapidly concretes; the latter is copious, and poured forth beneath the scabs. The hair, although matted together, is unaltered in condition, however chronic the disease may ultimately become.

In the adult, impetigo is often seen on those parts of the face which are covered with hair, as the eyebrows, beard, or whiskers. The skin is uniformly red, but without any induration; in an early stage, it is studded with numerous small pustules, which are often pierced in their centre by a hair. In many of these

Situation.

instances, the eruption is limited to the hairy portions of the face, one or all of which may be attacked in succession. Sometimes it is confined to a single spot on the upper lip, or to the skin around the apertures of the nose, or it may involve the eyebrows alone, both of which are generally affected. Situated in the latter region, it may extend for a variable distance to the cheeks, forehead, or eyelids; and if severe, is not unfrequently followed by a loss of the eyelashes, or by ophthalmia.

Impetigo is seldom preceded by any feverish symptoms. One or more small red patches first appear, which give rise to itching, and on these are developed yellow pustules, disposed in a group, but not much raised above the surrounding level. The disease spreads by an extension of some portion of its circumference, and having covered a certain surface, remains for the most part stationary. As in lepra, it is most usual to find the process of recovery commencing in the centre, while the circumference presents a segment of separate pustules. Besides the situations above named, impetigo may occur on any part of the trunk or limbs. In the latter locality, it is generally observed near the bends of the joints, or on the hands or fingers; sometimes it is found alone on the lips or nails; or it may be a result of syphilis.

Impetigo
sparsa.

Impetigo *sparsa* is a term applied to the eruption, when the pustules assume a scattered form. The disease runs in general a rapid course, and is accompanied by considerable pruritus. Supposing the complaint to appear on any given locality, as the back of the hand, the intervening skin between the pustules is red, thickened, and rough, and in the acute stage there is likewise much infiltration in the subcutaneous tissue.

As the disease shows a disposition to subside, the discharge dries up, and ceases to be renewed. A few small and thin scabs are observed on a pale red ground, which slowly disappear, and finally leave the skin in a natural state.

Impetigo *figurata* differs from the above chiefly in the arrangement of the pustules, which occupy a more circumscribed place. If seated on the limbs, corresponding portions are similarly affected, the skin is of the usual red tint, and slightly raised, and the same symptoms arise as in impetigo of the face. With the disappearance of the scabs, the skin loses its bright colour, and gradually fades. It is still, however, for some time tender, and liable to excoriate, so that unless care be taken, a relapse often occurs. On the lower extremities, and particularly about the ankle, although they may exist elsewhere on the foot, the scabs are sometimes very thick, wrinkled, or fissured, and of a dark colour. In such a case the disease is termed impetigo *scabida*. There is also infiltration of the subcutaneous structure, and the nails are broken or loosened from their attachment. After the crusts are removed, the skin long remains darkened in colour, or is converted into irregular cicatrices.

Impetigo
figurata.

Impetigo *of the lips* is generally limited to so much of their mucous membrane, as is visible externally. Small and adherent crusts are found on the part, the attempted removal of which, besides giving pain, is often followed by bleeding, but the secretion is always scanty. The patient pouts the lips, and discomfort is experienced in taking food. The disease is very much disposed to lapse into a chronic state, and then a series of vertical cracks arise, particularly in cold weather or

Impetigo
of the lips.

after exposure, which occasionally bleed, and are partially covered with cuticular shreds rather than crusts. However prolonged the complaint, it is always confined to this one locality, and does not encroach on the adjoining skin; the disease is one of youth, and most common in young women or girls.

Impetigo
of the
nails.

The *nails*, particularly in women, are occasionally affected with impetigo. As a complaint caused by an extension of the original disease from the fingers, it may be remarked, that the latter are covered with a quantity of thick yellow and irregular crusts, showing between them a reddened skin. The nail becomes elevated together with its matrix, and considerable swelling is seen around its root. The lunula is destroyed, and an interval is left between this and the skin, which exposes the surface beneath; the free edge is also covered with thick crusts, and the nail itself becomes finally detached. In some cases the disease is entirely confined to these structures, the earliest symptom being an inflammatory margin of the skin at the root, which is first attacked, and this is followed by destruction of the whole nail. Both hands and feet are sometimes implicated, and in the acute stage are the seat of considerable pain.

Syphilitic
impetigo.

In addition to the usual constitutional symptoms, there are one or two points, which it may be worth recording, in connexion with the presence of *syphilitic impetigo*. First, the disease may occupy a great extent of surface. I have known it, when situated on the loins, measure eight or nine inches in one direction and almost as many in another. Not only do the scabs lose in the later stage their soft consistence and become dry, but it is at this period that its tubercular

character is sometimes very evident. The tubercles are broad rather than prominent, and the intervals between them approach in character to sound skin. When occurring on the abdomen, a large patch is seen, mostly red, and traversed by several concentric rings, more or less covered with scabs. Notwithstanding their size, the patches of syphilitic impetigo are rarely painful; whatever their situation, the surface long remains discoloured, and the cicatrices consequent upon ulceration remain indelible. The patient is more frequently than not out of health, feels depressed, and unequal to continued exertion. This variety of impetigo is not confined to the trunk, but may be developed elsewhere, as on the extremities or the face.

Impetigo *granulata* is distinguished by the number and closeness of the granulations on its surface, but there is little, if any, surrounding inflammation. It is for the most part met with in the delicate skin on the sides of the fingers, or on the dorsal surface of the foot. The secretion is slight, and the affected part long remains without altering its character.

Impetigo
granulata.

There are several diseases of the skin that may be mistaken for impetigo:—1stly. Sycosis, which it often resembles in its choice of locality; but this complaint less frequently affects the sides of the face, and is generally restricted to the upper lip or chin. In impetigo the scabs are thinner, and the pustules small and scarcely elevated. The diagnosis is often rendered difficult from the surface of the skin being somewhat raised, and in either case slightly reddened; and likewise from the pustular character of each eruption. As sycosis becomes chronic, it sometimes exhibits little bald patches from which the hair has dropped out, and

Diagnosis.

is generally accompanied by more or less thickening of the subcutaneous tissue, as well as discoloration of the skin; in these several points it differs from impetigo. 2ndly. Scabies, especially when it involves the back of the hand, or the thin skin over the front of the elbow. Apart from any history of contagion or discovery of the acarus, scabies does not show that tendency to recur, which is betrayed by impetigo, nor do we find in the former any inclination to heal in the centre, while its margin is unchanged; the pustules of scabies are also more hemispherical and distinct, and it is seldom, when affecting the hands, that we do not detect a suspicious pustule above the wrist or along its inner margin. Sometimes the diagnosis is more complicated, as, for example, when the disease is situated on the front and inner part of the thigh. The pustules of scabies in this region simulate impetigo, but the former is generally most severe at Poupart's ligament, and at the same time rarely absent on the penis, although not in a pustular form. Again, scabies spreads rapidly, and the itching by which it is attended, differs from the less severe irritation of impetigo. 3rdly. Porrigio, unless it be connected with struma, is distinguished from impetigo by its situation, by the shape of its crusts, which are more raised and prominent, and by its property of contagion. Lastly, lupus may resemble impetigo, when the carpus is the seat of the latter disease. The scabs of lupus, if we carefully examine them, are more firmly adherent, and their removal is almost sure to be followed by bleeding. The history, too, shows that lupus, in the majority of instances, has existed for years, and is not a symmetrical complaint, *i.e.*, one attacking a like locality on the opposite side.

Reference has been more than once made to the relapsing nature of impetigo. This is one of its great characteristics, but it is not much affected by the seasons. Sometimes the patient will escape a return for one or two years, although he may have been suffering for several, at different intervals. As a strictly local affection, I have observed that impetigo generally recurs in the same spot. Thus, if the eyebrows or any other part be attacked, the disease is more likely to show itself again in this locality, than anywhere else. Sometimes we meet with instances, in which impetigo has invaded the fingers, and the nails been repeatedly shed and as often renewed.

An opinion has been expressed by Rayer, that im- Prognosis.
petigo is an affection more amenable to remedies than psoriasis or lichen. This is without doubt true, provided it be met with in an early stage, and in certain situations. Under proper treatment the disease usually subsides in the course of a month or six weeks; or, is so far advancing towards recovery, that this stage is not long delayed. In other cases, dependent on syphilis, however large the extent of surface involved, a favourable prognosis may be safely given; the patient, however, must be content to submit, and that for many months or even a longer period, to treatment. Chronic impetigo is sometimes very intractable when occurring on the face; and particularly on the eyebrows, or the exposed mucous membrane of the lips, where it is prone to relapse. Impetigo granulata is also an obstinate variety of the disease.

Little constitutional treatment is required in chil- Treatment.
dren, who are otherwise healthy. In impetigo which is due to dentition, and accompanied by febrile

symptoms, from three to six minims of ipecacuhana wine may be administered every four or six hours, and the gums should be lanced, if hot and dry. Should the milk of the nurse or mother be at fault, the child must be provided with a change, or weaned if old enough. In the latter event, the child should be furnished with a sufficient quantity of nourishing food, as strong beef tea ; or allowed to suck the lean part of a mutton chop. The crusts or scales should be treated in the manner recommended in cases of eczema impetiginodes occurring at a similar age.

In those instances of relapse, which are so frequent at a later period of life, the exhibition of mercury and arsenic will be of much benefit ; and also in that local variety of the disease of the nails, unconnected with any specific cause. In chronic or confirmed impetigo, mercury, in my experience, has proved of little advantage. Such cases mostly improve under arsenical treatment, the same precaution being taken in its administration as suggested when eczema and its sequence, impetigo, was considered in a previous chapter.

Acute impetigo, especially if of recent origin, is often relieved by simple remedies. Supposing the complaint to appear on the hand in a patient otherwise in good health, a mixture containing steel and from one to two drachms of the sulphate of magnesia for each dose, will generally suffice for internal treatment. Locally, the ammonio-chloride of mercury, a scruple to an ounce of lard, should be applied night and morning. In these cases it is necessary that the hand be supported in a sling, and kept perfectly quiet, as long as the complaint continues. Nothing sooner lessens the amount of swelling. With respect to internal

remedies, a method of treatment similar to that described above will apply to other examples which are also acute, whatever their situation. As a rule, however, if the affected surface be of considerable size, a preparation of sulphur, as a drachm of the precipitate to an ounce of lard with the addition of three or four grains of calomel, answers better as a local application than mercury alone. When impetigo involves the hair of the face, the latter should be cut close and the scabs removed before the ointment is used.

Sulphur baths, whether artificial or natural, are Baths. recommended by some writers for impetigo. Rayer speaks of them as suitable at any age, for the weak as well as for the strong. I do not place much faith in them, as impetigo is seldom a general disease unless it be complicated with syphilis, when these baths cannot be expected to relieve it. For the sake of personal comfort, an ordinary water bath may be taken, as often as occasion requires.

Whether in the old or young subject, and impetigo scabida may occur in either, the disease will usually be found to arise from a weakened state of the general health. It should always be our aim to improve the latter by means of bark with the sesquicarbonate of ammonia, or the chlorate or potash, if the patient has been already subject to mercurial treatment in excess; the ammonia, of which five grains for a dose will suffice, should not, however, be continued for more than ten days or a fortnight, as it is apt after a time to lose its effect. If the state of the urine exhibits any alkaline, or even a neutral tendency, we should do well to withhold it, and substitute for it from five to ten minims of dilute hydrochloric or nitric acid. In chil-

dren, steel wine or some other preparation of iron is often more serviceable than vegetable tonics. It is also essential to remove the thickened adherent crusts whenever they form.

In impetigo of the mucous surface of the lips advantage may be derived from the internal exhibition of mercury and arsenic, if the complaint be met with at an early stage. The patient may also apply a mild form of mercurial ointment at night. In cases of relapse or in a chronic stage, it is more serviceable to resort to a lotion of this kind; acid nitrici dil. one drachm, liq. hydrargyri bichloridi one ounce, and water four ounces. With this the affected lip should be painted twice a day with a brush. In more severe instances, the strong acetic acid seems to be the only local remedy, which asserts any influence over the diseased surface.

CHAPTER XII.

ECTHYMA AND RUPIA.

THE term *ecthyma* is used to notify a pustular disease of the skin; the pustules are large, ‘phlyzaceous,’ and encircled by a red and inflamed margin. *Rupia* rather signifies a complaint vesicular at its commencement, and which afterwards approaches in character to *ecthyma*. The close analogy between these affections has been remarked by nearly every writer since the time of Alibert; and as each disease pursues a similar course, we may regard them as one, divisible into the following kinds:—*rupia simplex*, *rupia cachetica*, and *rupia escharotica*.

Simple rupia or *common ecthyma* is not often attended by any constitutional symptoms, nor are the latter severe, when they do occur. The pustules vary in size from a pea to a marble, and when first formed are like blind boils, attended by a slight shooting pain. For the first three or four days they increase in size, and then suppuration begins in the centre, but the swelling retains its surrounding hardness. At the end of about a week the pustule reaches maturity, and it either bursts or a greenish-yellow or dark scab is formed. Should the latter be forcibly detached, much pain is felt and an ulcer is exposed, which becomes the seat of another scab. If allowed to remain, the crust

Simple
rupia.

usually falls off, and the ulceration is very slight. Sometimes several scabs unite, as when the eruption is situated on the face, but as a rule they are distinct. The locality generally selected is the lower part of the loins or the legs, sometimes the neck and arm, and not rarely the face. In old patients the pustules are larger than in the young subject, and often surrounded by a livid base, whence the name of *ecthyma lividum* applied to this species by Willan. The scabs occupy a long time in separating, and the skin around is hard and tender.

Cachectic
or syphi-
litic rupia.

As a syphilitic complaint, rupia, in the majority of instances, commences as a small hard subcutaneous tubercle, which is readily felt with the finger, and is freely moveable. At this stage, and particularly if near one of the larger joints, or on the thigh, it is hardly heeded, and may remain dormant for many weeks; or it may rapidly approach the surface, when much pain is experienced, and ulceration quickly follows. For some distance round the margin of the sore, the skin is red, tender, and undermined, and great thickening is felt in the tissue beneath. The secretion is thin and offensive, and frequently dark in colour; and should a crust be allowed to form, it is very thick and prominent.

Sometimes the affected surface shows a series of small and deep ulcers, separated from each other by bands of skin; or they contain in their centre, a dark and adherent slough, or a tubercle is seen at the base of the ulcer. Besides the above characters, one or two points are to be noticed in connexion with these sores. Not only is the discharge from them commonly tinged with blood, and foetid, but they readily bleed.

The edges are cleanly cut, and circular, as if the part had been scooped with a punch. As the disease improves under treatment, the discharge diminishes, and becomes more healthy; but the skin does not recover itself, or resume its natural condition; it is somewhat depressed, and long remains of a dark red colour. In chronic cases we often discover indications of the same malady elsewhere, or an old cicatrix has given way. The pain varies greatly in different examples. Sometimes it is severe, particularly if the surface beyond the ulcer be of a pink colour, hard to the touch, and otherwise inflamed; in these instances, the patient is frequently unable to sleep. In others, the pain is most marked towards morning, while the patient is in bed. Not seldom is rupia associated with a cracked or fissured tongue; occasionally with a specific swelling in its substance, only felt by compressing the part between the fingers; and sometimes, though rarely, syphilitic tumours may be noticed projecting on its dorsum, their exposed surface more or less abraded from ulceration, and coated with a whitish yellow secretion. Co-existing with the latter, deeply excavated ulcers may be now and then met with at the sides or margin of the tongue.

Rupia frequently attacks the face, as the nose and adjacent portion of the cheek, and upper lip; or else it occurs separately on the forehead, or the scalp. In the first and second of these localities, great personal disfigurement often results, as the affected part not only presents at the time a number of raised scabs painful to remove, and concealing beneath them a quantity of thin yellow pus, while the intermediate and surrounding skin is reddened and scarred, but the

cicatrices remain after recovery. The latter become white with age, and are for the most part smooth on the cheek and lips, except at their line of junction with the healthy integument, where an irregular ridge is observed owing to the depressed cicatrix. Especially may this be seen on the nose, forehead, or scalp; whenever met with, the hair on a cicatrix does not resume its former abundance, being thinner and imperfect, or entirely absent.

Escharotic
rupia.

Rupia escharotica is the most severe of any variety. Occurring generally at an early age, or in middle life, it is almost always associated with a bad state of the constitution. It begins as a dull red or livid spot, which soon becomes the seat of a dark sanious effusion. Whether the bleb bursts of its own accord, or is broken by accident, it discloses a deep and foul ulcer. In children, rupia escharotica often appears on the genitals, or the legs, or scalp. These are its usual situations. If extensively developed at this time of life, it gives rise to severe constitutional disturbance. In the adult I have known the disease to destroy, in a few days, the greater part of the ala of the nose, the full amount of mischief not being apparent until the scab was removed. The latter is generally of a dark colour, and so is the secretion, which is very offensive.

Causes.

Rupia is almost always a sequence of syphilis, and is met with in those who are debilitated from excesses, or are otherwise out of health. In such, it is not uncommon to find the disease delayed years after the occurrence of any primary symptoms, nor is it easy thus to limit the period of its subsequent development; an interval of ten, twenty, or even thirty years may elapse between the two. Once began and allowed to

continue, and especially in a weakened constitution, rupia pursues its course, and rarely heals spontaneously. In some cases, escharotic rupia has followed scarlet or typhus fever, or other exhausting and allied diseases. In the poorer classes, a relapse frequently results from want of nutritious diet. Instances of this kind are daily witnessed in public practice, where a patient often presents himself with a history similar to that told on a former attendance. As long as labour is obtainable, and food abundant, the complaint is checked ; but these conditions removed, it soon reappears.

There is seldom much difficulty in the diagnosis of rupia. No other disease commences as a tubercle, and runs a similar course. In the size and thickness of its crusts, pompholyx, particularly in early life, bears a near resemblance to it ; but this latter complaint is essentially vesicular at its origin, and as the scabs fall off, they leave rough and reddish stains rather than an ulcer ; and secondly, the constitution is generally much less affected in pompholyx. The scabs of rupia are unlike those of porrigo, in being surrounded with a red ring, and in the conical or limpet shape they occasionally present ; moreover, the latter leave in their train irregular and indelible cicatrices. Lupus, when situated on the nose, is most likely to be confounded with rupia ; but the former is usually more chronic, and its secretion seldom so great. Diagnosis.

As to the prognosis of rupia, the disease in general yields rapidly to treatment, and in the greater number of cases, recovery, save and except the cicatrix, is a permanent one. In some exceptional instances, however, the complaint shows an evident tendency to relapse, assuming, it may be on each occasion, a

different locality. Thus appearing for the first time on one of the limbs, it may afterwards select the forehead, and subsequently the palate. Nor is it easy to account for or explain the reason of such recurrence, as the patient is often otherwise in excellent health. In spite of this disposition to return, the eruption, it may be observed, decreases in severity with every subsequent outbreak, and so finally becomes exhausted. In others, where the general health has already suffered, a relapse is more likely to take place at certain points in the cicatrix itself.

Treat-
ment.

The constitutional treatment of rupia is most important. In the simple form of the disease, we may begin at once with a tonic, of which one of the best is the syrup of the iodide of iron, especially in early life. The crust being removed, and the exposed surface ulcerated, the latter should be treated with black or red wash, or the unguentum elemi, according to the condition of the granulations; or with the arsenical caustic, in which case the patient must be prepared for much subsequent swelling of the part, which often lasts for thirty-six hours ere it begins to abate. In escharotic rupia, the vital powers of the patient must be supported by a liberal diet, malt liquor, or other stimulants; in these instances, it is mostly necessary to have recourse to a powerful caustic, than which none answers better than the acid nitrate of mercury. At the time of its application, it is useful to have at hand a thick fold of blotting-paper to absorb any excess, and varnish the part afterwards with collodion. When rupia is the result of syphilis, the iodide of potassium is often of remarkable power, given in large doses from ten to twenty grains at a time, when smaller ones have

entirely failed. It is best administered in a strong bitter, as quassia or chiretta, where such effects as coryza seldom follow its use. Sometimes we may combine with advantage the perchloride of mercury with the iodide of potassium, care being taken to watch carefully its effects.

CHAPTER XIII.

LUPUS.

To express their ideas of a disease in a figurative form, was a method not unfrequently selected by the older writers; examples of which survive to this day, as elephantiasis, sycosis, and molluscum, where some animate or inanimate object supplies the symbol of comparison. In the present instance, under the similitude of a wolf is signified a disease, remarkable for its devouring and destructive power.

General
characters.

The chief characteristic of *lupus* is to be found in its devastating agency. Wherever situated, the skin is apt to be destroyed, and finally replaced by a permanent cicatrix. It is, however, by no means limited in its ravages to the skin; sometimes it occasions an utter obliteration of the features, in others it ends in a loss of cartilage, and in more rare instances of bone. Generally of tubercular origin, it may be succeeded by ulceration of a most active, or else of a most indolent kind; or again, no ulceration whatever may be observed throughout. Never contagious, and seldom hereditary; situated commonly on the face; disposed to bleed from slight causes, and almost always aggravated by exposure, *lupus*, from its diversity, is not easily described in exact terms. It is my endeavour to point out the more prominent features of each

variety of lupus; to show the influence of age and sex in its development, rather than attempt any definition, which should comprehend a complaint so varied in character and appearance.

Lupus admits among others of the following divisions:—Tubercular lupus, strumous lupus, exedent lupus, syphilitic lupus, impetiginous lupus, lupus with hypertrophy and erythematous lupus. Varieties.

Tubercular lupus is strictly a disease commencing in early life, for the most part appearing between the ages of two years and seven, and seldom primarily developed beyond the period of puberty. The affection is usually represented by a number of distinct tubercles, forming an isolated patch, and disposed on some part of the face, as the cheek, and more rarely the nose. The tubercles are of a reddish hue, slightly flattened at their summits, and in size ranging from a rape seed to a split-pea. Their colour is modified by circumstances, and although at times pale, it is generally heightened by such agents as mental excitement or the warmth of a heated room; in some cases, it becomes inflamed from exposure to extreme cold, and in others a similar effect is produced by indulgence in alcoholic drinks, or certain articles of food. Beginning as a tubercle, frequently not larger than a pin's head, the complaint may remain stationary for months, ere it exhibits any signs of increase. At length enlarging at its circumference, it presents an irregularly flattened surface, slightly elastic to the touch, of a dull, or imperfectly red colour; and bounded by a well-defined margin, which in the direction of its growth is studded with smaller and similar deposits; or the latter may have so far subsided, as to present no distinct line of demarca- Tubercular lupus.

tion between the healthy and diseased skin. The eruption is commonly declared on the cheek, and it differs from other species of lupus in being almost invariably limited to one side, neither encroaching on the nose, nor appearing in other and more distant localities, nor yet leading to eversion of the lower lid, however close it may approach this structure. In one case, that came under my notice from the north of England, the complaint occurred on the scalp, and occupied the greater part of its summit; it was of twenty years' duration, and at its border the tubercular element was well displayed; in another, that of a young lady, the tubercles were seven or eight in number, and scattered over various portions of the face.

Under treatment the tubercles disappear by interstitial absorption rather than by ulceration, and leave in their room small white and indelible cicatrices. Seldom at any time of its career is tubercular lupus attended by pain; it is a source rather of discomfort than distress to the patient, whose health continues unaffected. Associated in a slight majority of cases with struma, as proved on enquiry into the history, although not often evincing any of its external signs, tubercular lupus exhibits a slowness in its progress unequalled by any other variety; in many instances, its growth is apparent rather than real, and is due to the progressive development, which the part undergoes in early life, or from childhood to puberty; and it is not infrequent to find the disease originating as above described, after the lapse of twenty years and upwards, not exceeding in diameter that of a crown-piece.

Strumous
lupus.

Commencing like a small boil, *strumous lupus* is distinguished by its tendency to pass into a state of

superficial ulceration, unaccompanied mostly by pain. The sore thus established does not readily close. Sometimes it is all but healed, when ulceration breaks out afresh, and the same process is repeated. It is not so destructive as the exedent variety, and continues its serpiginous course with slight progress for years. When a part has healed for a considerable time, the central portion will in many cases be smooth and dull white, firm, and quite devoid of all natural resiliency. In other cases, the greater part of the surface appears more or less glazed, with a few thin yellow crusts upon it, concealing a number of small and superficial ulcers; or the disease, soon after its origin, may lie dormant for a long interval, and then give rise to a circumscribed sore covered with a scab. Such is the varied course, which strumous lupus may assume. When seated on the cheek, which it is in most cases, eversion of the lower lid sometimes takes place from the contraction of the cicatrices, and exposes the mucous membrane of the conjunctiva; and hence a constant overflow of tears to the great annoyance of the patient; or beginning on one cheek, the complaint may pass ribbon-like beneath the lower jaw to a similar spot on the other side. Another situation, not very uncommon for strumous lupus, is the back of the hand or the forefinger; and it is more usual on the upper than the lower extremity.

The *exedent* is the most frequent kind of lupus, and admits of various forms, illustrative of the progress and severity of the disease. Its general situation is the nose, and in particular the lower or cartilaginous structure. Whatever its locality, the earliest symptom of the complaint is shown by a small tubercle occurring

Exedent
lupus.

in the substance of the skin, of a red or purplish colour, and not at all unlike a blind boil, to which it is often compared by the patient. After a variable period, an imperfect suppuration is set up in the swelling, and at length it bursts, giving escape to a slight and viscid secretion. The latter soon concretes at its summit, and whether abraded by injury or otherwise, speedily re-forms ; the disease meanwhile continues to spread. The outer appearance of the scab, it must be remembered, offers no certain sign of the degree of ulceration beneath, and only when detached is the full extent of mischief perceived. This is often considerable, and after its removal we find a deep excavated ulcer, covered with a thin yellow fluid ; or a red granular surface is exposed, which bleeds on the slightest pressure, and is so soft, that several of the granulations are often entangled between the forceps employed to separate the crust.

Lupus exedens sometimes attacks the nose from within, and when this happens, it is the septum which chiefly suffers. By placing the patient before a good light, and examining the part, we find the surface more or less covered with greenish yellow crusts, which are soft, and yield to removal with the forceps. Their presence occasions a feeling of stuffiness in the nose, and the secretion is often offensive and tinged with blood. Should the complaint be much advanced, it is no unusual event on detaching the crusts, to discover, the cartilaginous septum carried away, or so far destroyed as to be scarcely recognised. A sense of relief is experienced by its removal ; and in most cases the disease will be found not to have extended beyond this boundary.

Besides the face, lupus exedens may exist in other

parts at the same time, as on the neck, or little toe, or on one of the fingers, proceeding in its course to the complete destruction of the latter. Sometimes no pain of any kind is experienced; occasionally a sense of itching is felt, worse towards night, and generally after meals, or only after certain articles of food have been taken. The disease is almost invariably increased by exposure to cold and wind, and often aggravated at the catamenial period. The consequences of lupus exedens vary with its situation, and the stage at which it has yielded to remedies. Thus, if treated at an early period, as when on the nose, no visible alteration may remain beyond a slightly indented scar. In a stage removed from this, the end of the nose may be pointed and irregular; or again, should the cartilage be destroyed, a smooth and polished appearance is given to that portion which remains. On the cheek, the resulting scar, if small in its outline, is sometimes of a colour inclining to purple; but when more extensive or in other parts, the cicatrices constitute white and thickened bands similar to those produced by a burn. Should the disease encircle the mouth, or one or both of the nasal apertures, they are apt to become contracted as cicatrization ensues. Lupus exedens may occur on the upper lip immediately below the septum of the nose the cartilage of which, as well as the lateral cartilages themselves, soon become involved in one common destruction.

Syphilitic lupus is sometimes manifested by the effects of constitutional syphilis being superadded to the ordinary signs of lupus, particularly of the strumous and exedent varieties. Seldom can any reliable conclusions be drawn from the patient's history. Its

Syphilitic
lupus.

situation and its multiplicity should be taken into account. Thus it may attack the forehead or the bridge of the nose, and invade at the same time a great part of the upper extremity; it is also apt to appear in front of the neck in the shape of a long narrow band stretching across this part, and covered with thick and irregular crusts; but its chief locality is the face, which, besides a number of scabs, shows a reddened integument, which is hard to the touch. In this manner I have seen it affect the entire face. Sometimes we observe one or several patches on various parts of the body, having a smooth centre but a raised and rugged margin, partially covered with crusts and much inclined to bleed. These patches are not uncommon on the forearm, elbow, or near the wrist; a case in a child of about eight years of age was under my care at the hospital, in which the complaint was situated on the calf of the leg. In another and opposite kind, but not the less syphilitic, the disease destroyed the lower part of the nose in a young woman, and the margins were surrounded with dense and quickly-growing tubercles. It is not necessary that the complaint be severe in order to be syphilitic, but it may nevertheless owe its severity to such constitutional taint. The worst case of the kind which has occurred to me was that of a boy aged thirteen years, an out-patient of the hospital, who had been suffering from this complaint ever since he was three years old. The nose became quite destroyed, and the mouth reduced to an aperture scarcely large enough to admit the finger. None but those about him could understand his altered articulation. The teeth were nearly all destroyed, and at a subsequent period, he lost his left eye.

Impetiginous or *papulo-pustular lupus* is the name applied by Mr. Startin, to that species of lupus, the external characters of which resemble those of impetigo. The disease mostly occupies a considerable portion of the face, either as one large and irregular patch or else subdivided into smaller groups. In any case the suppuration is abundant, and the crusts are yellow, and easily separated. The latter are neither curled at their circumference like those of eczema, nor yet raised as in porrigo; and if removed are quickly renewed. When the scabs or crusts are circumscribed, the surrounding skin is often inflamed, but it still retains its natural elasticity. *Impetiginous lupus* is often engrafted upon struma. As soon as recovery has set in, the suppuration either becomes confined to one or two small spots, which at length disappear; or the whole surface soon ceases to suppurate and becomes covered with small thin and dry crusts, which disperse slowly.

Impetiginous lupus.

Lupus with hypertrophy is rare in comparison with other kinds of lupus. It is characterised by faint or dull red tubercles, very broad at their base, not much raised, and more or less covered with cuticular desquamation, which is soon regenerated. The disease is generally confined to the face, but may affect the lower extremity. As a rule, its boundaries are well defined. The hypertrophy may long remain limited, as when it commences on the nose; but sooner or later, fresh tubercles are evolved on one or both cheeks, and as they coalesce a singular appearance like a mask is given to the face. The tubercles commonly undergo a kind of interstitial absorption, and leave behind them white cicatrices, traces of which are often evident in the intervals between them. Sometimes, however, small

Lupus with hypertrophy.

impetiginous-looking crusts may be seen covering the tubercles, and on removing them minute patches of ulceration remain.

Erythe-
matous
lupus.

The subject of *erythematous lupus* has received so little attention from writers on diseases of the skin, that I offer no apology for dwelling at greater length than usual, on this not uncommon variety. The duality of name, I may remark, by which it is distinguished, sufficiently expresses its twofold character, and will be found of very general application.

Besides the proper symptoms, to be presently described, erythematous lupus has the following history. It is not a complaint of childhood, and most rare before puberty; in so far as age is concerned, it pertains rather to middle life. The influence of sex is remarkable, and the frequency of its occurrence in the female in comparison with the male may not be unduly represented at eight or ten to one. Unlike other kinds of lupus, the erythematous is met with in the higher equally as in the humbler ranks of society; occupation, would seem to have little effect in its primary manifestation, however it may affect the issue, as in those callings which demand continued exposure, whether to extreme heat or cold. Again, erythematous lupus is commonly associated with good health, and as an affection of the skin it occurs alone, being seldom attended or followed by any other cutaneous complaint. Lastly, the disease is in no degree hereditary, nor, I may add, contagious.

Symptoms
and
progress.

The earliest sign of the eruption is in general denoted by an erythematous patch on the face, usually the cheek, but it may be the nose or forehead, which, at first only temporary, becomes afterwards permanent.

When the patient has what is called a high colour, the preliminary redness is sometimes scarcely noticed, while in an opposite class its occurrence is at once observed; in many instances, before assuming a persistent character, it appears only at a particular time, as, for example, in the summer months, and again returns during a like period for two or more consecutive seasons. There are now developed, on or near the centre of the patch, small white scales, which increase in number until they approach its edge, where a clearly defined border is left. The scales occur in one of two forms, either as scurf or as a crust, but in either case they closely adhere to the surface. The first of these is the most frequent, and as a rule accompanied by a sense of heat and itching in the part, increased by exposure to a cold wind or the warmth of a fire. The complaint may now terminate in the scurf decreasing, and at last disappearing altogether, leaving a red spot, which undergoes, what may be called for want of a better term, 'interstitial' absorption, *i.e.* it becomes converted into a white cicatrix; this is on a level throughout with the surrounding skin, or slightly below it, destitute of scales, and devoid of any hardness. Or, it may end in complete recovery, and exhibit no trace of its former existence. In the second class, the crust, as it may be truly styled from its increased thickness, is not detached without difficulty from the skin, and when removed, there are seen on its under or attached surface a number of minute projections, which dip into the follicles of the cutis, and render more intimate the connexion between the two. So strong is this attachment, that it is often impossible to separate the crust, unless the latter has been previously softened with some kind of grease or

oil, and even then, much pain is caused in the attempt, and a raw, irregular, and bleeding surface is exposed. A further stage consists in the following curious condition, which the part thus affected undergoes. The crust or scab has disappeared, and a peculiar mottling of the skin is left, which may be likened to the dotted surface of the cut rind of an orange or lemon. The period when this takes place varies in different cases; it may commence within a few weeks of the outbreak of the complaint, or it may be deferred to a much later date. Let it happen when it may, this condition implies a structural change in the skin, which, in my experience, does not admit of a return to its normal state; it approximates to a cicatrix, and to this it at length tends, becoming with age smooth and white, but still elastic.

Although the above may be instanced as the usual types of erythematous lupus, departures from them nevertheless will happen. In some, the crust of which I have just spoken occurs by itself, with no erythematous base, and in this event the part attacked occupies but a limited extent; it often does not exceed a three-penny-piece in diameter, and sometimes is no larger than that of a split-pea. The crust is flat and very adherent. In another class, the scales are so numerous and extensive, as to well nigh conceal the patch on which they rest, and give to the complaint an appearance much resembling psoriasis; in this variety, a considerable area is generally comprised, and the greater portion of the face involved, especially the cheeks. In a third kind, the disease is represented by a number of small and isolated patches, and approaches more nearly to erythema, with a sparing quantity of scales on its surface.

Besides the localities already named, the disease is sometimes declared on the eyebrows or the lids, and these may even furnish the sole evidence of its existence. In the former, it is for the most part speedily followed on the patch, by a loss of hair, which is seldom renewed; and in the latter, it generally manifests itself as separate and circular spots, or it may attack either canthus, and thus involve both lids simultaneously. Sometimes along the line of the eyelashes, where the complaint encroaches on this part, a row of small scales will be seen to surround their roots; and in chronic cases, the mucous lining of the affected lid exhibits in one or more places a deeply red spot, while the rest of the same surface shows a brighter hue than natural, or by comparison with that of the other eye. As a sequence, an excess of the lachrymal secretion takes place, which is often the means of directing our attention to the condition of the lid, and so detecting the appearance it assumes. Should the eruption affect the ears, the lobes are commonly the first to suffer, and on their red surface the same adherent scurf is displayed as elsewhere; from these it may creep along the whole rim, which in confirmed and chronic instances shows a singular departure from the state of health in the white, rough, and wrinkled, and almost sodden appearance it presents. Or, the external ear may entirely lose its natural softness and resiliency, becoming with the skin hard and rigid, and undergo, in part, destruction of tissue without ulceration. Not long ago, Mr. Cottle kindly gave me the opportunity of observing a remarkable instance of this kind in a patient of his, aged thirty-five, in the Fusilier Guards. The disease was of fifteen years' duration, and only affected these

Situation.

organs, which throughout were more or less involved ; in each the lobe was quite destroyed, and likewise the adjoining rim in at least half of its course. No pain had ever been felt, and although it was influenced by the weather, his hearing was unimpaired. In others, the complaint is mainly confined to the back of one or other of these organs, or the front of the concha, from whence it may travel along the external auditory canal. Equally in common with the above regions is erythematous lupus prone to attack the scalp, particularly in or near the middle line, where one or more patches may be observed, destitute of hair ; and if of long continuance, assuming a smooth and perfectly white aspect. Again, the exposed mucous surface of the lips offers another, and not at all an infrequent locality ; the complaint, in this situation, being conspicuous for the dry state of the membrane, which is rough from the presence of small and semi-adherent scales ; or, it may involve the mucous lining of the nostrils, commencing, as is usually the case, on the skin near the septum, and gradually spreading upwards, causing both annoyance and discomfort to the patient ; an example of this disease limited to the tongue was recently under my care, in which small white patches could be seen, smooth and deep red in colour at their margins. Finally, in instances of exceptional severity, I have known erythematous lupus to be associated with a like eruption on the back of the hands or fingers, extending even to the nails, or on the chest.

Such are the regions, which singly, or in succession, may be invaded by erythematous lupus, although, developed primarily, as it is wont, on the cheek or nose. They may even constitute, but this is rare, its original

site, and the latter become, in consequence, secondarily affected. In respect of frequency, no special liability can be said to apply to any of them. In one case, it is the nose and ears which alone suffer; in another, the cheeks and scalp, and so on, until every possible combination is produced. Whatever its situation, the tendency of the disease is to spread, and this may take place in two ways, either by an extension of the patch at its periphery; or by the evolution of separate spots, mostly circular in form, in various places on the surface. As illustrating its general course, I would remark that where the cheek, for example, is the subject of this complaint, it mostly happens that sooner or later a similar patch arises on the other side, and these enlarging at their circumference approach one another, and spanning like an arch the bridge of the nose ultimately coalesce, forming a sort of mask, which envelopes the greater portion of the face. In extreme cases, in which erythematous lupus has existed for several years, we may note, at one and the same time, the various phases of development and decline. Not always, however, as if to demonstrate its uncertainty, is erythematous lupus thus progressive; in no inconsiderable number, the eruption is confined to a solitary spot or patch, which for months or years makes little, if any, appreciable advance.

Although from the chronic nature of the complaint, Prognosis. we cannot, in severe examples, predicate the time, when its progress will be stayed, or question the possibility of a relapse in other cases of recovery, the disease, whatever its form, is largely determined in its course by the following events. In the first list may be ranked anything that depresses the mind, whether care, anxiety, or grief. In like manner, exposure to a

cold wind is sure to aggravate the disease, and so will in many cases a too near approach to the heat of a furnace or a fire, or a protracted stay near the sea-coast; not seldom is erythematous lupus associated with leucorrhœa, or some uterine disturbance or ascariides or hæmorrhoids. Even a slight derangement of the general health or habitual costiveness or too much indulgence at the table will occasion a similar result. In any given case, our prognosis will be aided by observing how far the disorder has spread, and by noting the presence or otherwise of a certain thickened state of the part, which is readily determined with the finger, or by comparison with the surrounding skin. This condition is not entirely due to the mere deposit of scales, and must be regarded as an element, unfavourable in the last degree to treatment, and consequently to that measure of recovery, which is implied by a cicatrix. Indeed, the tendency of erythematous lupus considerably developed, and possessing such a complication, is to advance year by year, at some portion of its circumference, or appear in new localities. Some of the worst examples, that have passed under my notice, have occurred to those, who have been obliged to work daily in the fields, besides subsisting on scanty fare. In these, the chance of permanent improvement is slight, as long as the above circumstances remain. Again, the influence of age should not be ignored, and in my experience the risk of a relapse or an increase of the eruption is more likely to take place, where erythematous lupus has commenced at an early period, of between sixteen and twenty years, than when postponed to a later or more mature age. On the other hand, if unattended by any thickening, the prospect of recovery, or

even permanent relief, is greatly increased, and little if any trace of the affection is left. A like fortunate issue may be also entertained in most instances of erythematous lupus in a multiple form, and in which erythema is most pronounced. In another class, in which the complaint is restricted to a small patch; whatever its situation, the patient must be content with a scar as a final result, sometimes irregular when on the cartilage of the nose or ears, but elsewhere smooth. Even in those cases, distinguished by numerous scales, much may be done towards their removal, and arresting the further progress of the disease.

Unlike most eruptions of the skin, it is in its early stage that the difficulty of diagnosis is usually greatest, although in many cases its true character has not been suspected at any time. Nor will this be altogether a matter of surprise, when the comparative rarity of the complaint is considered, or its varying aspect in the same patient, and still more in different instances. In the majority of its symptoms, the erythematous is wholly distinct from the other kinds of lupus, and at no period is it attended by that destruction of the soft tissues or of bone, which gives to lupus in general its hideous significance: indeed, so entirely exceptional is the supervention of any deep or depressed scar, that in one example only have I observed this result. It was that of a lady of middle age, who had three or four such cicatrices on different portions of her face, each in diameter of an average size of a split-pea. From its restriction to the skin, and the occurrence of scales on the patches, erythematous lupus may be mistaken for psoriasis; for so abundant is the squamous covering in some cases, that

Diagnosis.

an error on this point may be well imagined. On examination, we shall discover that the scales are not accumulated towards the centre, that the progress of the patch, if a solitary one, is in general slow, and the redness remarkable for the abruptness of its margin. The scales are moreover so adherent, that friction fails to remove them. Among other aids to diagnosis may be added the development of the disease at or after puberty, and its limitation, except in a few instances, to some part of the face or scalp, the latter remarkable, as chiefly affected by this form of lupus. Again, there are certain species of secondary syphilis, which bear a close similitude to erythematous lupus; and the more so if confined to a single patch, situated it may be on the side of the nose, forehead, or cheek.

As an illustration, I may briefly mention a case which I recently saw, of a gentleman, aged thirty years, who had a patch of erythematous lupus near the temple; it was partially concealed by the whiskers, and was moreover crescentic in shape, measuring four inches from end to end. It caused no inconvenience, and had existed for one year. A close investigation showed its real nature, which was confirmed by the existence of a small similar spot on the lobe of the ear.

In the variety characterised by the peculiar mottling of the skin to which I have before adverted, a mistake in diagnosis is less likely to arise, and in all instances the co-existence of a similar complaint in such regions as the ears, scalp, or mucous membrane of the lips will be strongly corroborative of the diagnosis of erythematous lupus. Finally I may add that when occurring only upon the cutaneous surface of the lids, or around the eye, it is frequently confounded with eczema; or if at the eyelashes, or the adjacent conjunctival lining, with tinea tarsi.

Treatment of erythematous lupus.—The use of the more powerful caustics is inadmissible here. Should the complaint have made little progress, and present a good deal of redness, the patient may apply twice a day with advantage a weak solution of nitric acid. The benefit of this treatment is most apparent, when much cuticular desquamation overspreads the patch; or if smarting pain be felt in the evening, a lotion of borax, a drachm to eight ounces of water, with two drachms of dilute hydrocyanic acid, may be substituted. If the disease be very limited and as yet in an early stage, I have frequently found that blistering the part in the first instance is useful before having recourse to either of the above lotions. In some cases, as when the scales are unusually thick and removed with great difficulty, the arsenical powder applied over them has succeeded in rendering the surface smooth but still red. The question of internal treatment may be briefly disposed of. There is no need for the administration of mercury or arsenic, which aggravate the disease rather than diminish it; nor are such remedies as cod-liver oil or quinine likely to lead to a more satisfactory conclusion. I prefer, particularly, if there be much heat of skin, one or other of the neutral salts, in conjunction with the bromide of potash, in a bitter infusion, and in some instances steel in small doses, will be of advantage in improving the general health. There is no form of lupus in which an excess of treatment, particularly as regards outward applications, should be more avoided, as in many cases, the favourable opportunity is allowed to pass, and the complaint in consequence rendered worse than before. Another point, to which I would allude, is the advisability of diverting the patient's

attention as far as possible from the eruption, too frequently a source of much mental worry, and one not to be measured by the mere extent of the disease.

Causes
of lupus.

In considering the predisposing causes of lupus, the influence of sex is very decided. Of 170 cases collected in the years 1861, 1862, and 1863, 131 were females, and 39 males. These figures represent lupus in the aggregate only, a much greater difference being denoted in some of its varieties. Thus in lupus exedens the ratio is 5 to 1 between the two sexes, and higher yet in erythematous lupus and lupus with hypertrophy. On the other hand, in tubercular lupus the relative proportion approaches more nearly that of equality, and so is it in syphilitic lupus. Not less remarkable is the effect of age. In those cases wherein I have been enabled to trace the disease from its beginning, I find lupus exedens, as a rule, to be developed primarily between the ages of ten and thirty years, becoming more rare after that period, and seldom commencing before the seventh year. Again, it is quite the exception to meet with tubercular lupus originating after the age of twelve years. Syphilitic lupus takes a wide range in its period of development, beginning as early as the fourth or fifth month, and as late as the seventieth year and upwards. Strumous lupus and impetiginous lupus are generally evolved about the time of puberty.

Lupus is not, I believe, influenced by occupation, and rarely by locality, although most French writers agree, that an excess of lupus occurs in the country compared to what exists in towns; Cazenave attributes this to the better quality of the food obtained in general by the inhabitants of the latter. Be this as it may, and the question is one difficult of solution, there is no

doubt that lupus, if we except the erythematous variety, is seldom seen in the upper classes of society ; and if not in its actual commencement, at any rate in its course, is greatly modified by diet ; a relapse being frequently due to insufficient or non-nutritious food.

Among the more immediate causes of lupus, the receipt of some local injury is often assigned by the patient, as the occasion of its first appearance, and hence its origin is frequently attributed to a blow or scratch. Sometimes it is reported to have succeeded a severe fright, or other strong mental emotion.

In the local treatment of lupus exedens, when the Treatment. part is covered as it usually is with a firmly adherent scab, the latter should be removed. In slight cases this is accomplished with a pair of ordinary dressing forceps ; but in the more severe, the scabs or crusts should be previously moistened with rags dipped in almond or sweet oil, or with a poultice. To the surface now exposed, we apply for a few seconds a little cotton or carded wool, to soak up any pus or blood ; and as soon as it is thus cleansed, the part should be touched with the solid nitrate of silver, cut if requisite, to a point ; or else painted by means of a glass brush with the acid nitrate of mercury. The former method, advised by Hebra, is sufficient in recent cases, in which the ulcer is small, deep, and circumscribed ; or when the granulations are so soft, as to be detached together with the crusts ; otherwise the latter is by far the more effectual remedy, while the pain attending it is greatly lessened by the after application of collodion. This soon dries on the part, which it defends from the air. Sometimes it is expedient to conceal the immediate effect produced by the acid, which is easily done by

covering the surface with a piece of red blotting-paper, and then painting the latter with collodion. No interference is to be allowed with the eschar occasioned by the caustic. After it has come away, the surface should be wetted two or three times a day with a weak nitric acid lotion; if it still looks unhealthy, a second application of the acid nitrate of mercury will be required, and may be repeated at intervals of two or three weeks. In other cases, in which, as recovery ensues, a red and granulating surface is left, we may substitute with advantage carbolic acid in the form of a lotion, and this should be applied over the thin scales which have replaced the former scabs. In lupus exedens, and particularly if it be conjoined with struma, cod-liver oil will prove a valuable remedy. In what manner it is assisted by mercury is not so clear, but given in combination with this mineral, as half a grain of calomel with opium every alternate night, or three times a week, its efficiency is much increased.

In tubercular lupus, the tubercles should, as in the exedent variety, be touched at their summits with a similar caustic. It matters little which is employed, the acid nitrate of mercury, or nitric acid, or caustic potash; but each should always be of the strongest kind, and never applied over too extensive a surface at one time. Tubercular lupus, as far as I have observed, admits of no other local treatment. The caustic requires to be repeated at intervals, until the tubercles are nearly reduced to the level of the skin; for if allowed to extend deeper, little excavations or pits remain, which should be avoided. The patient must be cautioned, that considerable inflammation is apt to follow the use of the caustic agent, whatever it may be,

and that two or three days or more will often elapse, before it abates. After this stage, and to lessen the heat in the part, which is generally felt towards night, the application of oxide of zinc in weak solution, or the biborate of soda with glycerine, will be very serviceable. As regards constitutional treatment, cod-liver oil and mercury may be given, as in the other forms.

Although by these means we shall succeed in reducing the tubercular mass to the lowest point of which it is capable ; and sometimes to such a degree as to render what was before an unsightly object, now scarcely perceptible, it should be remembered, that the tubercles are very likely to form again, and this tendency must be accordingly corrected. In no kind of lupus is the tendency to recur more frequently shown, than in the tubercular variety. In exedent lupus, after cicatrization is completed, the disease is much less disposed to return ; unless, as too often happens, the patient be exposed to the hardships attendant on extreme poverty. It is seldom that in the poorer classes, we have an opportunity of watching, for a long term of years, a case of lupus exedens ; but among my notes is the record of a case in a woman, forty-nine years of age, a former patient of the hospital, with severe lupus exedens, who, after six months' treatment, remained free from any relapse for sixteen years. Sometimes in lupus, particularly of the face, during as well as after recovery, the patient may suffer from erysipelas, which is so far favourable that it accelerates the healing process, or diminishes the chance of a recurrence of the complaint.

In strumous and in the papulo-pustular lupus, when the suppuration is free and the ulceration superficial,

an arsenic and calomel caustic¹ will be most useful. Sometimes in children this is too stimulating, and calomel alone is the better application. These cases are seldom able to bear the more severe caustics; they are more likely to improve, as well as the syphilitic lupus, should the ulcerated surface be extensive, by the application of a weak nitric acid lotion and the trisnitrate of bismuth.

Lupus with hypertrophy.—The deuto-ioduret of mercury or the ioduret of sulphur, applied as an ointment, a scruple of either to an ounce of lard, is highly spoken of by Cazenave, and Bielt, as serviceable in removing the tubercles of this complaint. More reliance is to be placed on the use of carbolic acid than the acid nitrate of mercury. To lessen any disposition in the diseased skin to crack, which it is often inclined to do, the patient will derive benefit from a lotion of the oxide of zinc and glycerine. Should there be little or no irritation but at the same time considerable desquamation of the surface, acetic or nitric acid in weak solution may be tried, and generally with success. Sometimes the actual hypertrophy is limited to a single spot, although traces of diseased structure are evident in the surrounding parts. Thus the nose may attain an enormous development, while the rest of the face exhibits a mass of cicatrices. In one extreme case which came under my notice, the nose, the seat of hypertrophied lupus, hung down like a pear and measured upwards of eight inches in circumference at its

¹ It is made thus :—acidi arseniosi, gr. iij.; hydrargyri bisulphureti, gr. ij.; and hydrargyri chloridi, ℥j. The powder is made into a paste with water, and applied with a camel-hair brush after the scab is removed.

widest part. The mass of growth having been removed by amputation, it was found, besides a large amount of serosity, to be composed externally of masses of fat, while its central part was chiefly made up of ill-formed fibrous tissue. In the operation for its removal, a considerable portion of integument was retained to cover any exposed surface in the event of sloughing. This occurred subsequently; but notwithstanding the advanced age of the patient, who was over seventy years old, she made an excellent recovery. I have quoted this case to exemplify a line of treatment equally applicable to others of a like kind. To say nothing of the deformity, the mere weight of such a mass was a constant source of discomfort to the patient.

The conversion of the tissues of cicatrices into malignant or allied growths is shown in the readiness, with which keloid or warty tumours are sometimes developed upon them; or in the supervention of a melanotic structure on a mole. To this general rule lupus offers no exception, although such cases are comparatively uncommon.

Subsequent growth of cancer.

As a supplement to the treatment, and only to be adopted when cicatrization is complete, there remain for description certain auxiliary aids, which may be advantageously applied to lupus, where the disease has ended in deficiency or destruction of tissue. For instance, one of the most frequent results of lupus affecting the cheek, as I have said, and terminating in a cicatrix, is exposure of the adjacent lower eyelid. As contraction of the part takes place, so does eversion ensue, occasioning great annoyance from the constant overflow of tears. By means, however, of a simple operation, and one unattended by risk, the lid is

Plastic operations.

capable of being restored to its former level, and the comfort of the patient permanently assured. The procedure consists in freeing the eyelid from its attachment beneath, and supplying the gap thus left with a portion of healthy skin from a more distant part. An operation of this kind offers so large a measure of success, as to be applicable to almost any case, except when the face exhibits an uninterrupted series of scars.

With regard to the loss of substance *inside* the nose, we sometimes find, as has been observed, that despite our efforts to prevent it, the cartilaginous portion of the septum is wholly destroyed; and this may occur leaving intact the fleshy band below between the nares.

So long as the latter is preserved, and indeed so long as the outward form of the nose is maintained, no further interference is required, or should be attempted. The inconvenience resulting from an aperture in the septum alone is slight, while the difficulty of applying an efficient substitute is almost insuperable. I may also take this opportunity of adding, that a like rule of non-interference will equally hold good in those cases, in which the free margin of the cartilage presents an irregular or a jagged appearance from ulceration. It may happen, however, that the fleshy band, above referred to, has given way, or, what is more likely, the disease has commenced at this part, and involved the adjacent cartilage subsequently. In either case a button-like projection is left at the root of the nose, where, besides the absence of a septum, the lateral cartilages are not unfrequently destroyed.

Sometimes we are called upon to repair the ravages produced by destruction of tissue in the lips, over which

the saliva is always dribbling. In such a case, our first endeavours should be directed to promote cicatrization, an obstacle to which is often to be found in an offending tooth. I remember a well-marked case of this character in a man advanced in years, and who had long been an out-patient at the hospital. After the surface had healed, an attempt was made to supply the deficiency of the lower lip, which was almost wholly destroyed, by an artificial one formed of gutta-percha and afterwards stained of the natural colour of the skin. This was attached by either end to an elastic band, which passed round the back of the head, and served to keep it in position. By the aid of this simple contrivance, the patient could partake of his food with comparative comfort. He was also able to resume his work as a gardener, without being subjected to those personal annoyances, which his former disfigurement frequently gave rise to.

Besides the mere loss of tissue, a further complication will sometimes arise in the narrowing of the passage of either nares, which interferes with the secretion of this part. On placing the patient before the light, the contraction will generally be found a short distance from the external orifice, and to such a degree as scarcely to exceed the thickness of a crow-quill. Much discomfort ensues to the patient, particularly in the morning after sleep. To dilate the opening, I know no better plan than to instruct the patient to insert every night at bed-time, a small bougie of compressed sea-weed, or laminaria as it is called, which has the property of enlarging rapidly when soaked for some seconds in hot water. In the course of a few days, the aperture will be sufficiently large to allow a plug or bougie of greater

size, and this should be resorted to, from time to time, until the natural passage is restored.

Where partial or complete loss of nose has taken place, as a consequence of lupus, the deficiency is best supplied by an artificial one, made of india-rubber, and fitted to the rest of the organ by gum-mastic. The lightness of the material employed for the above purpose, deserves consideration, while its removal or readjustment is readily accomplished by the patient. It is for this reason, that india-rubber is to be preferred to those substitutes, whether of silver or platinum, which are sometimes used, and only retained in position by being attached at the bridge of the nose to a pair of spectacles. To obviate the difficulty of blowing the nose, when the latter is artificial, the patient is recommended to insert in either nares a small piece of cotton-wool. This should be removed once or twice in the day, and will be found to answer the object required.

Should the septum be wanting inferiorly, we may succeed in replacing it by an artificial one, made of a substance similar to that employed by dentists in the formation of an artificial gum. The new septum is kept in its place by the natural elasticity of the surrounding structures, and in appearance, as well as in comfort to the patient, well supplies the original.

CHAPTER XIV.

ALOPECIA, OR LOSS OF HAIR.

OF the various diseases relating to the skin, there is scarcely one so sparingly alluded to as *alopecia*. It has attracted little attention even from Rayer, extensive and accurate as are his researches on most cutaneous complaints ; while an equally meagre account is rendered by Gilbert, Devergie, Hardy, and other contemporary and subsequent writers. This omission is the more remarkable, if we may judge of the comparative frequency of the disease, a frequency which there is no reason to suppose is greater in this country than elsewhere.

The alopecia, or loss of hair, which I am about to consider, embraces two varieties. First, that which is usually known as alopecia circumscripta, or areata ; and even this may merge into a general or complete form, and thus lose altogether its circumscribed character ; and secondly, the alopecia, or loss of hair, which is so constant in adult life, and affects chiefly the scalp.

Alopecia circumscripta may be defined to be a non-contagious malady, occurring in the form of white ivory patches, smooth, frequently shining, and ending abruptly in a circumference of sound unbroken hair ; sudden in its advent, without pain, uneasiness, or discoloration of the affected part. Indeed, there is,

General
characters.

in most cases, a want of sensation in the patches, so that redness is not readily excited by scratching or rubbing them, and the disease is therefore commonly unperceived, until it exists with all characteristics complete.

Ratio between the sexes.

I found among the cases recorded at the Skin Hospital during two years, in Mr. Startin's practice, a total of 60 cases of this complaint, commencing from January 1, 1862, and ending on December 10, 1863, viz., 31 in the latter and 29 in the former year. Of this number 37 occurred in the female and 23 in the male; and deducting 2 of the one sex and 3 of the other as instances of general alopecia, we have 35 and 20, or an excess much above a third, in the relative proportion between the two sexes.

Age of its occurrence.

On analysing the above numbers as to the period of life—reckoning an interval of five years to the age of 45 between each period—we have,

				Total. Females. Males.			Age 3½ years.
Below 5 years	.	.	.	1	1	0	
Between 5 years and 10 years				16	13	3	
" 10 "	15	"		9	6	3	
" 15 "	20	"		7	3	4	
" 20 "	25	"		6	4	2	
" 25 "	30	"		5	1	4	
" 30 "	35	"		4	3	1	
" 35 "	40	"		1	0	1	
" 40 "	45	"		4	2	2	
				53	33	20	

The ages of two female patients were not given in the register, and the number is therefore reduced to 33 instead of 35.

It is curious to observe in the above table the large number of cases between the ages of 5 and 10 years,

being twice as great as that between any other interval, and also the excess, that of 13 to 3 of the female over the male. Moreover, out of 53 cases, 25 occurred between 5 and 15 years of age; 19 of these were females. Again, we perceive in this sex, beyond the period of puberty, a decline in the proportion of cases of alopecia, until the time at which the catamenia are about finally to cease, when the number is slightly augmented. No such marked difference exists in the male. Between the ages of 25 and 30 years, however, the ratio in this sex is as 4 to 1 compared with the other; but then it should be remembered that it is at this interval, when permanent baldness frequently shows itself in men.

Circumscribed alopecia, as its name would infer, is generally limited at its origin to a single spot, but exhibits great variety in its progress. Beginning usually without pain or any other premonitory symptom, it more frequently selects the occiput, but may commence equally in the temporal or frontal regions. The patch, small at first and mostly circular in shape, enlarges at its circumference, and after having attained the size of a florin or upwards, in certain instances, remains stationary, at least for a time. In other cases different patches are evolved in succession without coalescing with each other, until the entire scalp presents a series of bald circumscribed spots, varying in size from one to three or more inches in diameter; or the disease, unchecked, may so involve the whole scalp as to leave it entirely destitute of hair; or it may extend to the entire frame and render it smooth and white as an ivory ball. Course.

I have said that the disease is commonly unattended

by pain or any previous symptom. In a few cases, however, patients have stated, that the part about to become the seat of the complaint, has been of a red colour, and painful as if bruised. This condition, also noticed by Hardy, is confined to the scalp and soon passes away, and the skin resumes its natural or even a whiter hue.

Complica-
tions.

Although alopecia is apparently of spontaneous origin, it will be found, on inquiry in the young subject, to be often connected with the presence of ascarides; and at a later age in girls, with irregular or imperfect menstruation, or leucorrhœa; or some distant gastric or enteritic irritation. Sometimes it succeeds to the eruptive diseases of childhood, especially scarlet fever. Another symptom, not unfrequently present, is severe headache of a periodic character generally, and confined to the forehead.

Micro-
scopical
appear-
ances.

If we examine with the microscope the hair during the decline of the malady, a marked alteration will be seen to have taken place in the bulb. It becomes gradually attenuated, and reduced in the ultimate stage to a fine point. This state may be observed in the greater number of instances, and I believe it to be a very constant result. Sometimes the hair bulb will appear only stunted, and to have lost much of its globular shape; or, more rarely, a number of projections, like the ends of a brush, arise from its wasted or shrunk extremity. In a more advanced period of the complaint, the hair itself undergoes a change. It loses its smoothness of surface, and the fibrillæ are readily broken.

If we turn our attention to the modifications that ensue in the process of recovery, we discover an oppo-

site condition ; and here to the bulb is mainly affected. It assumes by degrees its normal character and shape, while the hair at this early stage is far below its natural size. The latter appears, when viewed through a high power of the microscope, as a simple diaphanous cylinder, without any central canal. For some length of time, during its growth, the new hair is readily distinguishable from the old, so much finer and lighter is it in colour.

There are many causes, which contribute to partial loss of hair in adult life, particularly in women. Among the most frequent may be instanced parturition, certain fevers, as continued or typhoid, or ordinary scarlet fever, or there may be general derangement of health, especially if succeeding to grief or severe domestic affliction. Sometimes, but more often in men, it follows acute rheumatism ; and in either sex, and at any age, it may result from syphilis congenital or acquired. In some few examples, I have known loss of hair to arise from, or be associated with, prurigo of the scalp, and in these, great tenderness is often complained of over the affected surface. Occurring in any of the above forms, the loss of hair is often very great at its commencement, and equally so, at any rate for a time, is its progress ; to this it may be added, that, as a rule, the scalp only is involved. Now, if we examine the hair with a high power, we fail to detect any tangible evidence of disease, yet it exhibits this peculiar disposition, viz., an excess of epithelium, deposited on the bulb as well as the lower portion of the shaft, and derived from the living membrane of the follicle. This deposit is irregular in thickness, contains fine granular

Causes of
alopecia.

pigmentary matter, and in places a considerable number of minute oil vesicles, which are little affected by the action of such agents as chloroform or liquor. potassæ. Indeed, we may often notice with the naked eye a manifest enlargement of the bulb, which reveals under the microscope the above characters; or we may note a similar tendency to degenerate to a point, as in alopecia areata. Again, in the severer cases of alopecia, in which the disease has advanced with rapidity, and comprised the greater portion of the scalp, whiskers, chin, or more distant regions, with little or no attempt at restoration, there is the same disposition in the hairs to assume at the bulb, the pointed character which distinguished the eruption in a more circumscribed form. This applies especially to the scalp or limbs, while to the sides of the face a more brush-like termination is indicated, or the bulb appears bent upon itself.

By many writers, especially abroad, alopecia is considered a parasitical complaint, named by Gruby, who discovered it, the microsporon Audouini. Bazin, who has paid particular attention to this subject, describes the cryptogame as situated chiefly in the scales on the surface, at an early period of the disease; when affecting the hair, the latter is often swollen or enlarged at irregular intervals along its shaft, while numerous spores are visible, and likewise mycelium. Whatever may be the results in France, no case has come under my care, in which the parasite could be detected; and even assuming for the moment the correctness of the above theory, the rarity of its occurrence must be remarkable, when we remember how seldom it is for more than one member of the same family to suffer from this

complaint ; a conclusion hardly to be expected from any affection so truly of cryptogamic origin, as *tinea tonsdens*, or *favus*. *Pityriasis versicolor* may indeed be quoted as an exception, but in this disease the parasite is mostly recognised without difficulty.

There are probably few cutaneous complaints, which Prognosis.
tax to a greater degree the patience of its subject, than alopecia. Many weeks, and sometimes months, will elapse ere any sign of recovery is indicated ; nay more, the disease sometimes continues to gain ground, in so far that fresh patches will arise, while the old are proceeding to recovery. Among the early signs denoting the latter, may be distinguished new hair, or rather down, at the circumference of the patch, which gradually lessens in size as the centre is approached. It is of common occurrence, too, for the hair which first forms to be white in colour, and this may take place as early as the age of fourteen or fifteen years, when a marked contrast is seen between the grey hair and the otherwise youthful aspect of the patient. At such a period, this condition, it may be remarked, is always temporary, and with each successive growth of hair a darker tint is communicated, until the natural colour is regained ; but it is apt to assume a more lasting character when occurring in the adult, or at a more advanced age.

In the young subject, as in youth or childhood, a favourable result may be entertained with regard to the restoration of the hair, whatever its origin, except of course where the loss is congenital ; of the latter, only two instances have come under my notice, so rare are examples of this kind. To the above rule, may be added alopecia of the scalp, sometimes seen in infancy as an accompaniment of congenital syphilis ; or even

when occurring in after life, the result of acquired syphilis. In the same category may be included that numerous class, in which the loss of hair is partial, and dependent upon some previous ailment or illness, and so much more frequent in women than in men. Not so, however, when the alopecia is general and rapid in its career, and no new growth supplies the deficiency thus produced. With reference to that species of baldness so frequent in middle age, and which usually commences at twenty-eight or thirty years of age, when the crown of the head becomes perfectly smooth, no remedy will be found equal to meet this emergency in men; this does not apply to women, who, equally with eunuchs, are seldom bald, except from disease.

Treatment. The local treatment consists in the application of stimulants to the affected surface. If, for example, the denuded part be small, and confined to two or three patches, they should be painted about once in a fortnight or three weeks with a blistering fluid, and allowed to remain undisturbed, until the irritation that follows has subsided; while in the intervals between the application, the patient should be directed to apply some such ointment as this, viz., from one to two drachms of balsam of Peru to an ounce of lard, with ten to twenty minims of the oil of cloves; or in lieu of this a strong ammonia liniment, or two drachms of the liq. ammoniæ to an ounce of benzoated lard, to which may be added, if required, from five to eight or ten minims of croton oil for a lotion. As a lotion, one of the following kind answers extremely well:—liquor. ammon. acetatis three ounces, compound spirit of ammonia half an ounce, glycerine half an ounce, and rose water to eight ounces. When the patches are numerous only a few should be

painted at a time ; and if the disease occupy a considerable surface, or the whole scalp, it will be enough instead of blistering to apply a mustard poultice occasionally. As regards internal remedies, they should be directed to the improvement of the general health.

CHAPTER XV.

ACNE.

Definition. ONE symptom proper to acne is expressed by its derivation (*a*, non, and *κνaw*, radere), viz., freedom from itching; but this must not be taken in a sense too absolute, as in one of its varieties at least, no such complete immunity is obtained.

Acne is generally described as an eruption of pimples or 'vari,' seated on the face, neck, or shoulders; very chronic in their course, and ending in resolution or imperfect suppuration. A more extended signification than this may, however, be given to it. Thus, it may imply simply an increased secretion of the sebaceous follicles, or their inflammation; or we may have superadded to the ordinary eruption, a varicose state of the cutaneous capillaries, with or without hypertrophy of the skin; or its origin may be due to a syphilitic taint.

Varieties. The varieties of acne are the following:—acne simplex vel punctata, acne indurata, acne rosacea, acne sebacea, and acne syphilitica. Under the general term acne are comprised by some authors molluscum, acne varioloide, and sycosis or acne mentagra.

Unknown in infancy and childhood, acne commences at and after puberty, and seldom shows itself as a primary affection, beyond middle age. It is one

of the most frequent complaints, incidental to the young adult, equally common to either sex, and found in all ranks of life. Little difficulty is experienced in its recognition. The peculiarity of the eruption; the state of the skin itself, which from the activity of the sebaceous follicles, has an unctuous or greasy aspect; the numerous black points at the extremities of the follicles; and lastly its situation, render the diagnosis of acne in most instances an easy task.

Varieties of acne.—*Acne simplex* is distinguished Acne
simplex. by an eruption of pimples, varying in size from a pin's head to a rape seed, and scattered over the upper part of the body. In certain cases, the complaint is limited to some portions of the face, as the forehead, nose, and cheeks; or it may at the same time appear on the sternum, or the shoulders, or between the scapulæ; and in the latter situation, by no means an infrequent one, its existence is often not detected by the patient. The pimples are hard, shining, and red. They arise in successive groups, and each pursues for the most part an independent course. Often they may be felt as little knots or tubercles embedded in the skin, while the larger and more prominent are observed in various stages of development. After a few days, among some of the earlier pimples little yellow spots may be frequently seen at their summits, indicating matter beneath; but if this be let out, only a drop or two of pus escapes, and the size of the pimple is scarcely diminished. It retains for a considerable time its hard circumference or base, and changing in some cases to a darker colour, as in *acne indurata*, slowly disappears. Many of the pimples do not suppurate, and in others the pustular

stage is delayed for several weeks. The intermediate skin is scarcely if at all affected.

Acne
punctata.

Interspersed in the eruption just described, and indeed noticeable in most of the varieties of acne, may be seen numerous black points or specks. These are the apertures of the sebaceous follicles, loaded with secretion, and rendered black from exposure to the air. Wherever existing, the surface will be found to exhibit that greasy character so common in acne of the face, and which is increased by warmth, especially in summer; in other cases, although they may not be so visible, the same character is observed, and the skin has a coarse appearance from dilatation of the follicles; and in a few instances I have seen a number of hemispherical pimples close to, but distinct from one another, and each surmounted by a black speck. Besides occupying some portion of the face or shoulders, they may frequently be observed in the external ear, or on the shoulders or arms. Popularly denominated as grubs, they can generally be dislodged by the aid of slight pressure applied to the margin of the speck, when a cylindrical mass is squeezed out, composed chiefly of sebaceous matter, besides containing in many instances a parasite, the *acarus folliculorum*. The various stages of development of this creature are exhibited in Plate VII. from the ovum to the period of complete maturity. It is not uncommon for two or more follicles to inflame and unite, and so produce a good-sized pustule; or the same may occur to a single follicle. These changes are often noticed in the course of the disease, even when advancing towards recovery, and should the complaint be severe, small blind boils

will sometimes be found in adjacent portions of the skin.

In *acne indurata*, all the above symptoms are aggravated, and the eruption is further distinguished by an indurated state of the pimples, and their confluence in lines or furrows. This last condition indicates the essentially chronic character of the disease, which on enquiry will frequently prove of several years' duration. It is usually declared at a later age than the preceding variety, and is most common between the twentieth and thirtieth years. In its progress it is remarkably slow, and oftentimes occasions great personal disfigurement, which is apt to be increased by the occurrence of furunculi. The latter are less prone to suppurate than in other kinds of acne, and are usually oval in shape, and of a reddish colour; that they contain pus, we have sufficient evidence by the escape of thick and yellow secretion, when an opening is made into one of them. Sometimes from this cause, the nose is irregularly enlarged, and of a dark red or purplish colour; or a collection of blind boils takes place on the upper part of the neck, or they are scattered irregularly over the face. In certain examples, the shoulders and back are severely affected, and the complaint is seen in every stage. As recovery ensues, numerous small and irregular indentations remain, which are removed only by time.

Acne rosacea, the *couperose* of French writers, is more allied to erythema, and differs in many respects from the former varieties. When witnessed in early life, or at puberty, not that it is commonly a disease of early life, it is sometimes severe, involving the greater

*Acne
indurata.*

*Acne
rosacea.*

part of the face, to which it is always confined. In the great majority of instances, *acne rosacea* is an affection of middle life, and in women is often worse just before the catamenial period. The redness, from which it derives its name, is at first perceived only after meals, and limited in the early stage to a small patch, usually on the nose or cheek; by degrees it becomes permanent. It is less observable in the morning, but assumes a brighter tint towards evening, and is increased by hot drinks, as tea or spirituous liquors, or by excitement, or exposure, especially if the patient should afterwards enter a heated room or approach the fire. Pimples, around the base of which the colour is always intensified, spring up, indolent in their nature and tedious in attaining maturity; sometimes at the summit of these a yellow spot is seen, denoting suppuration beneath, or small boils become visible, especially on the cheeks, and often a kind of scurf or white powder may be observed overlaying in part the affected surface. In certain examples, it is the tubercular element which mostly preponderates, and in this form, the chin is frequently crowded with raised and red tubercles; in others, where a greater resemblance is borne to erythema, this condition is wanting, but the same tingling or burning sensation is experienced as in *acne rosacea* generally. In many cases, and the more so as age advances, numerous dilated capillaries are seen in or just beneath the skin, tortuous on the cheek, where they are arborescent in their arrangement, while on the nose they are usually longitudinal in direction. The complaint after a time loses its transitory character, and peculiarly liable as it is to relapse, becomes confirmed. The skin no longer glides beneath

the finger, but with the subcutaneous tissue becomes hard and thickened, and finally that hypertrophied state is beheld, which betrays the disease in its ultimate stage.

Acne rosacea is sometimes due to syphilis. It is then noticeable for the crimson flush, which commonly forms a continuous patch extending over a greater portion of the nose, as well as the adjoining surface of the face. Developed upon it are small red tubercles, shining and semi-elastic to the touch; they are chiefly situated on the lower end or towards the side of the nose, and also on the cheek and forehead. When on the decline the redness vanishes, and although the tubercles may be scarcely recognised, their remains can still be plainly felt with the finger. The affected part is in no degree painful. It lacks the smarting feel which, as above remarked, so often attends acne rosacea. In other instances, syphilitic acne has no fixed seat of election; it may occur on the loins instead of the shoulders, or even on the extremities. When the pimples around it suppurate, small brown scabs are formed, and a minute ulcer remains at the apex of each. After this has healed, a depressed and circular cicatrix is left, surrounding which a copper-coloured or darkened areola lingers for a long time. Another symptom indicative of syphilis is the absence of that oily secretion, which is so general an accompaniment of acne.

Acne sebacea, although described in detail by most foreign authors, is sparingly alluded to by our own. I shall principally follow Hardy in his account of this affection, which, rare in this country, first attracted the notice of Bielt. It is described as occurring in one of

Acne
sebacea.

three forms—acne sébacée fluente, concrète, and cornée. In the first of these, the sebaceous matter is in a fluid state, and constitutes an unctuous covering on the surface of the skin. The secretion is unattended by pain or itching, and is often abundant. It occupies the same situation as the other varieties of acne, and is generally intermingled with them. In the second, the fluid concretes into a scab, varying in extent, sometimes occupying a large space, and in colour ranging from a light to the darkest hue. In consistence the scab is soft and readily moulded, and in recent cases removed with ease. Although similar in locality to the preceding, it sometimes appears on the scalp, and Rayer relates a case of acne sebacea of the scrotum. The last, or the acne sébacée cornée, is identical with the ordinary sebaceous tumours. (Hardy, *Maladies de la Peau*, folio 100 ; 1858.)

In the first variety, the sebaceous matter is in a fluid state and secreted in excess ; it leaves a greasy spot or stain on the finger, when applied to the part. It is mostly confined to some portion of the face, and less frequently noticed on the scalp. The complaint is a source of annoyance from the disfigurement it produces, rather than from any itching or irritation of the skin. The patient is therefore obliged, should the disease be in any exposed surface, to be continually wiping off the secretion. It is most common in young women, and rare before puberty.

In a more solid form, acne sebacea may occur on nearly any part, whether the face, extremities, or trunk. Some authors have described it by the title of spurious or sebaceous ichthyosis, but with this disease in its true character it has no real connexion of any kind. The

secretion derived in like manner, as the preceding, varies greatly in consistence and in colour. Thus it may be soft and yellow, when a number of linear depressions are seen on its surface, or semi-fluid ; or, on the other hand, hard, dry, and almost black from exposure. An interesting account of this rare complaint, occurring in two young women, is described by Dr. J. W. Ogle in the forty-seventh volume of the *Medico-Chirurgical Transactions* ; in these cases, the extremities were chiefly affected. Whatever kind the eruption presents, it is one very liable to return.

Various opinions have been expressed with regard Causes. to the causes of acne. The subjects of it, if young, are in good health otherwise. Unripe fruit, or great indulgence in beer or spirits, or insufficient diet, will occasion it ; and in girls, it is commonly connected with some irregularity of the menses ; at this time of life, too, during early menstruation, acne is occasionally met with in a very obstinate form. Venereal abuses may give rise to it, and there is little doubt that some of the worst instances of acne indurata are occasioned by masturbation. Acne rosacea is sometimes hereditary, and in those who are thus by nature predisposed, the disease is readily induced by any excess at the table, or even exposure to cold and wind. When of constitutional origin, it is apt to appear at a much earlier age, than when no such influence can be assigned ; and it is, moreover, frequently associated with that well-known condition, arising from enlargement of the small bloodvessels on the surface, to which I have already referred. In other cases, it may be derived from artificial heat, as in cooks, smiths, and that numerous class, who are constantly exposed to vicissitudes of temperature.

The origin of the word 'rosacea' and such terms as 'brandy face,' 'grog blossom,' which are commonly applied to it, might seem to imply that it was almost limited to those, accustomed to deep potations of wine or other fermented drinks, but the complaint has no such exclusive restrictions; the most temperate even are not exempt from it. In women, when the catamenia are about finally to cease, acne rosacea is apt to occur, as well as in both sexes, who suffer from hæmorrhoids, or chronic disease of the liver. There is an eruption that I may refer to, which is sometimes produced by the bromide of potassium, taken internally and in large doses. Although it might be mistaken for acne, it more approaches impetigo sparsa in its pustular character, and occasional development on the scalp. It is a rare complaint, and one *sui generis*, as strictly speaking it exactly resembles no other form of cutaneous disease.

Prognosis. In its simplest form, acne soon yields to proper remedies, and a like favourable result may be anticipated in acne punctata and indurata, except that a long continuance of the disease implies, as a rule, a more or less prolonged treatment: this is particularly the case, in which furunculi are soon reproduced, accompanied with thickening of the skin or the tissue beneath. The most troublesome instances, in my experience, are those in which the complaint is distinguished by a number of black specks not very discernible, but so minute as to be incapable of removal by any pressure, that can be applied. They occur for the most part alone, and are seldom complicated with any suppuration. The second variety is that to which I have briefly alluded, and which is characterised by hemi-

spherical pimples of the same colour of the skin, each surmounted by a black dot.

The prognosis in acne rosacea is also favourable, whether the complaint be tubercular or not; but less so when its hereditary disposition is denoted, or in other cases, which have become long confirmed.

In considering the different agents for the treat- Treatment.
ment of acne, we must be guided by its variety, cause, and duration; and where there is sufficient reason to attribute it to any continued error in diet, or to amenorrhœa, or ascarides, or other influences, the general state of the health should be regulated accordingly. The diet should be strict, and beer, or acid fruits, or salads, especially avoided. If the long-accustomed stimulus of alcohol has been suddenly withdrawn, it will be in general advisable to return to it in moderate quantity. The internal use of steel, and the addition of a purgative, will commonly fulfil the requirements demanded by general treatment. Arsenic is seldom required in acne indurata or punctata, and not at any time in the other varieties.

Local measures play no unimportant part in the treatment of acne, but great care is necessary that they be not too stimulating. A lotion containing from two to four grains of the bichloride of mercury, half an ounce of rectified spirit, and seven ounces of rose water, will prove useful; or a weak solution of the bichloride and bisulphuret of mercury; this will be found advantageous in acne, even in the chronic stage of the indurate variety. Sulphur is also very serviceable in acne, and may be used in several ways. As a lotion it should be largely diluted. Sometimes, in place of sulphur, a lotion of bismuth answers extremely

well in combination with mercury—a drachm of the trisnitrate of bismuth, five grains of the bichloride, a drachm of spirit of camphor, and eight ounces of water. Among ointments, I may mention those composed of sulphur or of mercury, which are to be lightly smeared over the part once in the course of twenty-four hours, and that at night before the patient retires to bed.

Before applying any of the above preparations, the patient should make use of a rough towel, dipped in water as hot as can be borne, and thus by opening the pores of the skin cleanse the surface of any sebaceous matter that may have collected. In *acne punctata*, he would also do well to rid the sebaceous follicles of their overcharged contents, by making pressure at their sides with the finger nail, when a little cylindrical yellow mass will escape. Any small pimples already on the verge of suppuration should be opened with the point of a lancet, or if of larger size, touched with acetic acid. To remove or diminish the increased capillary secretion, when this exists in a marked degree, various means have been devised. Among the best is the acid nitrate of mercury painted over the part with a fine glass brush, and then immediately absorbed by blotting-paper. In the course of a few days, the capillary vessels will be seen to be considerably diminished in number, as well as in size. A repetition of the same acid may be employed to any spot, that has not already showed signs of disappearing. When *acne* affects the chin, the latter is apt to become sore and painful. Neligan suggests in lieu of soap for those who shave, a saturated solution of the bicarbonate of soda, and an equal quantity of olive oil. In the treatment of *acne*

sebacea, Bielt advocates the vapour douche, to be used for a quarter of an hour on each occasion. This has the effect of softening the crusts and causing them to disappear. Hardy, in like cases, recommends the use of an ointment of the peroxide of iron.

CHAPTER XVI.

SYCOSIS.

THE origin of the word *sycosis* is from the Greek *συκον*, a fig, the pulp of which it was thought to resemble. I need scarcely say, that no such similarity as that implied from its derivation, is in any way offered by the disease; but it is, nevertheless, sometimes expedient to retain a name, which has come down to us from ages, although possessing no other claim than that of antiquity for its support. Sycosis was known as far back as the time of the younger Pliny, who mentions the complaint as an epidemic in different parts of the Empire, and very severe among the higher ranks of the Roman nobility, among whom it produced the most extensive ulcerations and disfigurement. The treatment, if we may credit the same authority, that the patients received, was of a kind little likely to improve their personal appearance, or arrest the rapid progress of this malady.

Sycosis is classed by English writers with the pustular diseases of the skin. It is nearly related to acne, and should be regarded as a disease of the hair follicle. It may terminate in resolution or in suppuration; or, as a final result, it may produce an obliteration of the follicle, and leave permanent baldness of the affected

part. In France, sycosis is deemed a parasitical affection, dependent on a cryptogame, which is described as similar to that of *tinea tonsdens*. In support of this theory it is alleged, that cases occur in which sycosis and *tinea tonsdens* have been found in the same family, or even in the same person. But the inference thus sought to be deduced is hardly warranted, from the rarity of the coexistence of these complaints; and is, moreover, opposed by the difference of locality, which each variety of fungus presents. No instance has come under my notice, which could at all establish the identity of these diseases; and even its contagious character would appear to rest on a solitary example recorded by Foville, which is frequently quoted. Sycosis exists in two distinct forms, one of which and the least frequent consists in the development of thin white scales, difficult to detach, and seated on a reddish ground, which is often evident at the margin of the patch. Considerable itching is experienced in the part, which is slow to extend, and may remain for many months with little visible change. When occurring on the chin or beard, the scales are thicker than on the upper lip, and consequently apt to involve, to a greater degree, the hair. It is in this vicinity, at an early stage, that the parasite is observed, but if a period of some months, or even weeks, be allowed to elapse, no trace of the cryptogame remains.

The accompanying drawing of the cryptogame represents one of the few instances, in which I have been able to discover it. The spores, which abound in myriads, are small, and in shape circular. The parasite is remarkable in being limited to the sheath of the hair, which, as well as the root, it surrounds; but it

Micro-
scopical
appear-
ance of the
fungus.

never appears above the skin. Gruby first discovered it, and in his memoir he mentions the filaments connecting the sporules as extremely thin, and granulated internally; the filaments are also seen to divide at various angles. The fungus is chiefly situated between the root of the hair and its follicular wall.

Situation.

The hairy portion of the face is the usual locality of



sycosis. Not commencing before puberty, it is almost peculiar to the male sex, in whom it occupies part or the whole of the upper lip; or the exposed Schneiderian membrane of the nasal septum; or the chin, whence the name of *mentagra*, by which it is best known abroad. Sometimes the sides of the face which are covered by the whiskers are the seat of this eruption. Rarely does it affect the eyebrows; and in one case only have I noticed the complaint to occur on the upper and back part of the neck, adjoining the occiput, and therefore clothed with short hair; in this instance, it was found to coexist with sycosis of the lips and chin.

A species is referred to by Bateman, under the name of 'sycosis capillati,' and by Alibert as 'pian ruboide:' of these kinds no example has passed under my observation, nor yet of sycosis in the female, as narrated by some authors.

In the other variety of sycosis, a feeling of heat and tension, rather than pain, is experienced in the part before the eruption appears. The surface is at first red, and a few pimples or tubercles are commonly developed upon it, which increase the former irritation. Some of the pimples are penetrated in their centre by a hair, and at this spot a speck of pus is often perceived, which extends, until the greater part of the pimple becomes converted into a pustule. The swellings are usually indolent, and slow to suppurate; and when the latter stage is reached, the scabs are mostly dark yellow, and collect together the hair at the roots. The crusts are likewise very adherent, and difficult of separation, particularly those that are traversed by hairs. After their removal, tubercles of good size frequently remain, showing the apertures from whence the hair bulbs have been extracted, and which are in consequence generally smeared with blood. Towards the border of the patch, the crusts more resemble those of impetigo, and are smaller and less firmly attached.

Symptoms.

Sycosis fully merits a place in the list of relapsing complaints; but great uncertainty prevails as to locality and time in its return. Sometimes the patient will affirm, that he has not been wholly free from it for several years; more frequently it recurs after a few months, or in the autumn, and among the early symptoms we may detect a white scurf enveloping the roots of the hair.

Tendency
to relapse.

Variety of
character.

Great diversity of character is exhibited by sycosis, according as the disease is acute or not. Sometimes the tubercular condition is that which is most evident; the surface appears to consist of a large cluster of tubercles, which, although unequal in size, are seldom any of them larger than a split-pea. They cause much irritation, and often give rise to considerable discharge. In other cases the tubercular element is less manifest, or absent, even from the commencement. Many instances of the latter are met with, in which the disease is confined to a space not exceeding a sixpence in diameter, especially on the upper lip near the middle line. The part affected is of a reddish colour, slightly raised or swollen, and partially covered with small thin and yellowish crusts. A few pustules may be occasionally observed, each containing one or more hairs. An oozing of moisture takes place rather than an actual discharge, which is mostly perceived after a night's rest. Small as is the extent of surface involved, the disease sometimes becomes a source of great mental annoyance to the patient. It shows little indication to spread, and will continue stationary for many months, or even years.

In chronic sycosis, it is not uncommon for collections of pus to form, which produce a partial but permanent loss of hair. In these cases, smooth and bare patches are seen, varying in size from a threepenny-piece to the palm of the hand. Sometimes a single spot of this kind occurs, at others there are several, and they may be situated on either side of the face, or below the chin. Whatever their extent, the intervals between them are occupied by apparently sound and healthy hair. In less advanced instances, a few straggling hairs are frequently

found on the patch. Another result of confirmed sycosis, and one equally characteristic of the complaint, is an induration or thickening of the affected part. This is at once manifest to the touch; and in colour it partakes of a dark red or violet.

Sycosis may run a rapid course, as in the following example, which I had an opportunity of seeing; it was that of a man twenty years of age, employed in the London Docks, who came to the hospital with sycosis of the lips, chin, and sides of the face, which were one mass of crusts and ulcers. When some of the scabs were detached, unhealthy granulations were exposed, discharging a thick and offensive secretion. He was in great pain, and could only with difficulty open his mouth. This was the first outbreak of the disease, which had only existed three weeks.

The diseases of the skin which are most likely to be mistaken for sycosis are the following:—1stly. Acne rosacea. This, although it may appear on the chin, is seldom confined to it, and more generally occupies the cheeks and nose. The same redness is manifested in either eruption, but the pimples of acne rosacea are less disposed to suppurate, or to be succeeded by thick crusts; and, again, while the one complaint is unknown in women, the other is not so frequently observed in men. 2ndly. Impetigo, to which it bears a close resemblance in many cases, and with which it is often confounded. Both select the same locality, but sycosis is rather a tubercular complaint; its crusts are more raised and of a darker colour, and that hypertrophy of the cellular tissue beneath, which commonly attends sycosis in its later stage, is seldom seen in impetigo. Or again, it is characterised by white scales, which

Diagnosis.

serves at once to distinguish it from a pustular eruption. 3rdly. Syphilitic rupia, when it attacks the exposed mucous surface of the nose, or occurs on the chin or lips, may be mistaken for the swellings of sycosis; and in the latter situation, the diagnosis is sometimes obscured by these parts being covered with hair. It may be of service to remember, that the scabs of rupia mostly conceal unhealthy ulcers, and the secretion is dark and offensive. In other cases, we find a group of closely-set, smooth, shining tubercles, of a pale red colour, which are truly syphilitic.

Treatment

We must not judge from the apparent severity of the attack, of its probable duration under treatment, for while some cases are confessedly obstinate, a large proportion are benefited, and that speedily, by appropriate means; indeed, the narrower the circle of the disease, the more difficult is it oftentimes to overcome. In all instances, which implicate the lips and chin, the hair of these regions should be clipped as closely as possible with short scissors, and the razor discarded until complete recovery. Cleanliness is very important, and simple warm water or thin gruel is required to soften and so assist in clearing away the crusts and their secretion. The local treatment should be modified by the acuteness and extent of the eruption. Thus, if the latter be painful, widely spread, and, as in the case above quoted of the dock labourer, accompanied by offensive ulcerations, a large bran or linseed-meal poultice, containing a small quantity of sulphur, should be constantly applied. The violence of the attack will thus be greatly lessened in a few days, and when this point is gained, it will be enough to substitute for the poultice an ointment of sulphur,

consisting of half a scruple each of the precipitate and iodide to an ounce of cerate. This will prove of advantage in a large number of cases, and when its influence is beneficial, an improvement is soon shown. The internal treatment should be regulated by the state of the general health. In some cases, as when the skin is unusually tender, a mercurial ointment is to be preferred to one of sulphur. Any hairs that are seen to emerge from the pimples or pustules should be extracted from time to time, or the patient may be instructed to do this himself. Great strictness in diet is to be enjoined; for while nourishing food is necessary on the one hand, a relapse is often occasioned on the other by alcoholic stimulants, which are rarely required. In hospital practice, the sufferers from sycosis mostly belong to one of three classes: first, waiters, who from their calling are liable to sudden alternations of heat and cold; secondly, bricklayers, and those in whom, besides the irritation of lime acting on the surface of the skin, habits of intemperance are confirmed; and thirdly, those who are exempt from these influences, and abstemious to a degree.

Another mode of treating sycosis is by epilation. This is most useful, where the disease has not spread far, or is limited to a patch of small size. In adopting it, we should be careful to remove not only each single hair from the affected part, but also include any that are apparently diseased within its margin. The attendant pain is less than might be expected, and this is explained by the fact, that in the pustular stage of the disease the hairs are easily extracted; their removal is scarcely felt by the patient. After this procedure is completed, an interval of two or three days should

elapse, to allow any irritation of the skin to subside, or the part may be anointed with glycerine, or covered with a soft poultice, to dislodge any crusts. The next step is to apply, morning and evening, an ointment of mercury, or a lotion of the same mineral, in which case I prefer the bichloride, in the proportion of two grains to an ounce, and a drachm of eau de cologne added to it. Sycosis is frequently relieved in this way in the course of three or four weeks, nor does lasting baldness take place, if the hairs are thus treated, instead of being allowed to fall out.

It has been said, that while under treatment the use of the razor should be given up, as being a source of irritation to the skin. If during recovery this be impracticable, the patient should be advised to employ, instead of the ordinary soap to shave, that which is manufactured by the name of juniper tar soap; and if this be not procurable, honey soap; either of these kinds is less hurtful than that generally used.

CHAPTER XVII.

FAVUS.

WHEN we consider the character of *favus*, how entirely it stands alone among other affections of the skin in all that concerns its symptoms, progress, and pathology, our surprise will cease at the interest which Schonlien awakened by demonstrating its cryptogamic structure; or the elaborate investigations of which it was soon to become the object. There is probably no disease of the skin that has undergone the test of microscopical inquiry so much as favus, and I have only to recount the names of Gruby, Robin, Lebert, and Remak, among a host of continental writers, who have devoted to it a large share of attention. In our own country, at a time when Gruby was still pursuing his researches, Hughes Bennett, of Edinburgh, followed closely in the same path; and in a paper which he communicated to the Royal Society of Edinburgh, was the first to give us a clear and accurate account of its peculiar method of development.

As soon as it is capable of being recognised by the eye, favus is seen to consist of a light-yellow or brimstone-coloured crust, not exceeding in size a millet seed, and oval or circular at its periphery. Sometimes it is pierced by one or more hairs, which are generally in their direction oblique. Partially embedded in the

General
characters.

skin, its upper surface quickly rises to a level with the epidermis, with which at its circumference it is closely connected ; it is at first flat, and soon becomes slightly concave. Increasing in diameter, its concavity deepens, and acquires a lighter colour in the centre, and is further distinguished by a series of concentric rings. Should the crust be detached at this stage, its under surface is found smooth, convex, and covered with moistened cuticle ; a drop or more of blood may follow its removal, but otherwise, and if separated with care, the cutis is only somewhat reddened and depressed, and in a few hours regains its natural elevation. In some cases, after the crust has been thus detached, a small button-like projection will be observed on the surface. A new crust soon takes the place of the old ; but should the latter be undisturbed, in the course of a few days it will have arrived at maturity, and then further changes ensue. It loses its characteristic cupped appearance, and becomes convex ; the circles grouped around a common centre fade and disappear ; and then a rough and raised mass results, dry, friable, and fissured. By degrees, its attachment to the skin is less firm, and its base less round than before. At length the crust drops off, leaving only a dark red stain. These successive changes are best studied in those crusts, that have remained distinct. Where several have coalesced, they give rise to irregular formations.

Appear-
ances of
the hair.

When favus attacks the hair the condition of the latter becomes completely changed. It appears dead and dull, and its elasticity is destroyed. If we examine a marked specimen, as in Plate VI., fig. 1 (*d*), the external surface may be observed to be dotted with circular spores, which, although mostly separate, preserve

a linear arrangement. They tend to split the hair longitudinally in several places, and at length totally disintegrate it. In a less advanced stage, as in (c), these characters are less apparent, and only a few scattered spores are seen on the exterior. Not only is the shaft thus diseased in its entire length, but the bulb suffers in the same or even a greater degree. The latter spreads, and between its projecting fibrillæ are deposited numerous spores. If the disease be very chronic, and the hairs are allowed to fall out, the follicle is destroyed, and permanent alopecia a result. In such patches, which have become bald, the skin is thickened, hard, and dry.

In fig. (a) is represented a portion of a favus crust under the microscope. It abounds in mycelium, which consists of wavy tubes, containing several small spores in their interior; between these is a quantity of exudative matter and epithelial scales. In (b) the spores alone are observed, some separate, others joined end to end, and others again, may be seen to arise from the extremities of the tubes.

Appear-
ances of
the crust.

A favus crust, in its early stage, is light and highly porous in its interior, breaks like a piece of pumice-stone, and crumbles to a yellow powder. Externally it is more compact, so as to constitute at this part a thin and tough layer or *stroma*. It is in its central part that the mycelium and spores abound. The stroma, according to Bennet, is the source from whence are derived the spore tubes. The latter emanating from every point of its interior, or rather from the granular mass which lines it, divide dichotomously as they approach the centre, where they break up into a number of spores. The tubes are cylindrical, but assume every variety of shape.

The spores, although they differ in size, are generally spherical.

An excellent example of mycelium, surrounding the hair, is seen in the accompanying figure, executed for me by Dr. Maddox. The filaments, like so many



various sized threads, form a close and irregular network, enveloping the shaft. Towards the lower part of the figure a cluster of spores is observed; and below this, a single stem may be noticed to divide dichotomously into branches. From the free extremities of

some of the latter the spores themselves are derived, and, as they escape, are arranged mostly in pairs.

Numerous experiments have been made to propagate the disease by inoculation ; they have in general failed, but the skin has become red or slightly inflamed, or only pustular.¹ Remak is stated to have inoculated successfully, after removing the cuticle and attaching the favus crust by means of strips of plaster for thirty-six or more hours. There can be no question that favus is contagious, but it is not so clear under what circumstances the contagion is received. It is during its growth, when the crusts are first formed, that favus appears most communicable, as at this period the sporules are abundant. After a time, the crust loses its distinctive character in this respect, and the hair becomes destitute of spores. At a still later stage, the scalp, supposing the hair to be cut close and recovery is proceeding, bears no small resemblance to chronic eczema, as far as external appearances are concerned.

Favus is not confined to the head, but may occupy Situation. the extremities or trunk ; the former is, however, the

¹ Dr. Hughes Bennett successfully inoculated one of his class on the arm, from a patient who had favus of the scalp. At the end of three weeks, there was no sign of the eruption. There was, however, an open superficial sore on the arm, on which a portion of crust was fastened by means of adhesive plaster. 'In a few days, the skin surrounding the inoculated part appeared red, indurated, and covered with epidermic scales. In ten days there were first perceived upon it minute bright yellow-coloured spots, which, on examination with a lens, were at once recognised as those of favus. On examination with the microscope, they were found to be composed of a minute granular matter, in which a few of the mycodermatous jointed tubes could be perceived. In three days more, the yellow spots assumed a distinct cup-shape, perforated by a hair ; and in addition to tubes, numerous sporules could be detected.'

most frequent locality, even when other regions are affected. In infancy, favus is rare, a point that has not escaped the notice of Neligan, who states that he never met with it below the age of three years; it is also seldom witnessed in old age. Although it may attack the nails, it seldom includes the hands or feet.

Causes.

Favus has no necessary connexion with struma, although it cannot be denied, that it is frequently found in phthisical subjects. Perhaps there may be something in the cutaneous secretion in these cases, that favours the growth of the sporules, but there is no sure evidence on this point; certain it is, that the complaint is most rarely seen in the well-to-do classes, and generally confined to those who are ill-nourished, weakly, and undersized. Dirt is a powerful predisposing agent; hence the frequent association of favus with pediculi and scabies, or both. Again, patients who have already suffered from this disease are, more than others, liable to be attacked. Whether this be due to the complaint not being wholly cured, the germ of it still remaining, I do not decide; but the fact remains, that in a severe case after apparent recovery, the patient is very subject to experience a relapse, which may be repeated at intervals for years. The loss of hair will depend upon the state of the hair follicles; when the latter are obliterated, which takes place after successive attacks, no regeneration of hair ensues; the skin is hard, inelastic, showing a few hairs here and there, and is often of a yellowish colour; but in the less severe forms of this eruption, no permanent baldness follows.

*Rarity of
favus.*

There are good grounds for the belief that favus is becoming, at any rate in England, more rare. At the Hospital for Diseases of the Skin, it is now far less

frequent than formerly ; nevertheless, examples of it are to be met with in some of the worst and densely crowded districts of London, and in our large prisons. In Paris and at St. Louis, the disease would appear to be far from common among the in or out patients, the greater number of whom are brought there from the provinces. Indeed, in any case, it is only in the lowest class, among the children of the very poor and wretched, that the complaint occurs at all.

The actual seat of favus is still unsettled. According to some observers the disease commences in the hair follicle, and various are the changes which it is supposed to undergo, before it reaches the surface in the form of a cup-shaped crust. By others, among whom may be mentioned Gruby and Bennett, the mycelium is received between the layers of the epidermis, while a furfuraceous desquamation of the cuticle precedes the crusts, and it is from the walls of the latter, that the sporules are formed. What lends weight to this theory, and renders its acceptance the more trustworthy, is the fact, that the attached surface of the crust is coated with a layer of epidermic scales, which separate the granular mass from the cutis, and consequently from the hair follicle. The latter I believe to be affected secondarily ; and when the hair is finally destroyed, the change is caused by the pressure acting on the follicle, rather than by any primary defect in the condition itself of the latter. Some authors, as Rayer, speak of favus, as if the disease were originally pustular. This is no doubt an error. Pustules may coexist with favus, but they are quite independent of it.

Favus is often stated to emit an offensive odour, which has been compared to the urine of cats. This

may happen in a very advanced stage, when the patient has suffered the complaint to run its course, to the complete exclusion of all cleanliness, but it is not a constant result; and I have seen favus involving the greater part of the trunk, face, and extremities, unattended by any disagreeable smell. When it occurs unchecked, the disease is often complicated with vermin, which find refuge in the fissures of the crusts, particularly on the scalp; and is further aggravated by severe itching, which the patient seeks to alleviate by violently scratching the part.

Treatment. The common remedy in France is epilation, as practised at St. Louis. This mode of treatment is generally entrusted to an experienced attendant, who is furnished with a pair of forceps, having broad and closely fitting edges. Simple as the operation may appear to be, it requires some degree of skill to perform it properly. The hairs should be extracted in the direction in which they grow, and as this complaint renders them brittle, they will be very apt to break off at their roots. The extent to which the treatment should be carried at a single sitting, will depend partly on the feeling of the patient, and still more on the dexterity of the operator, but as a rule the procedure is more painful at first than afterwards. The time that it may altogether occupy before the diseased hairs are thus eradicated, will be commensurate with the extent to which the complaint has spread. The new hairs which form are distinguishable from the old by their being less brittle, and not so wanting in lustre, although still small. It is scarcely necessary to add, that before epilation can be undertaken, the surface of the scalp must be thoroughly cleansed, and the hair

itself cut quite short. If after some days no signs of crusts appear, nor any remnant of the cryptogame be detected in the hair, the patient may be pronounced convalescent, but it will be as well not to lose sight of him, for the spores will sometimes lie dormant for a while. A return of the disease is shown by a slight redness, and a furfuraceous condition of the scalp. In the intervals between the extraction of the hairs, the surface should be anointed with a liniment composed of sulphur or mercury. Other plans of treatment are also in vogue abroad. Thus, after the head has been cleared of all crusts, it is washed with soap and water. This step is repeated as often as is necessary, until the scalp is thoroughly clean. The surface is then covered with an ointment, composed of one or two drachms of the bicarbonate of potash to an ounce of lard, which is applied every alternate evening for three or four weeks, according to the severity of the case. In England epilation is seldom had recourse to. After the usual preparatory process in the way of cleansing, tar, or the ung. picis liquidæ, or a preparation of sulphur is used. In most instances this seems to answer every purpose. Neligan, who has had considerable experience of this disease in Ireland, prefers the iodide of lead ointment, in the proportion of half a drachm to an ounce of cerate; and states that it has succeeded so well in his hands that he has had no occasion to try any other remedy.

CHAPTER XVIII.

SCABIES AND PEDICULI.

Scabies. SCABIES, or the *itch*, to use a more common expression, is a complaint variously classed by different writers, according to the preponderating character of some particular symptom, whether this consist of vesicles, papules, or pustules. Whatever sign it may present, and there is scarcely any disease of the skin which scabies may not simulate, it owes its origin and significance to an insect—the ‘*acarus*’ or ‘*sarcoptes hominis*.’

Although known from a very remote period, as early as the time of Avenzoar in the twelfth century, it is only within the present age, that the *acarus* has formed the subject of much accurate research. In this country Mr. Erasmus Wilson, and abroad the labours of Gras, Hebra, Gudden, and Bourguignon, have left little that is wanting in completeness, in whatever relates to its organisation, development, and habits. For the anatomy of the creature I have to record the results of my own microscopical investigations; but, less fortunate than Bourguignon, I have not hitherto succeeded in tracing the various changes occurring in the ova, from the first appearance of the ovum to the maturity of the contained insect. For this part of my subject I am indebted to the valuable monograph of this latter writer.

The acarus has been compared, and not inaptly, to a tortoise. It is, however, more globular than oval, and appears almost transparent under a high power of the microscope. It is provided with eight legs, two pairs of which are in front, and a single pair at either side, which arise from the under surface of the body. Exactly in the middle line at one extremity is seen a distinct head, and at the opposite is the anal aperture.

Anato-
mical
charac-
ters.

The roundness in form varies with the state of repletion or otherwise of the animal. When no food has been taken for some time, and it is both hungry and lean, the entire body is thrown into a number of transverse folds, which in a great measure disappear after engorgement; these overlap one another like so many tiles, and are most evident at the sides of the creature. Disposed irregularly throughout the interior, we may generally perceive a number of dark, round, and distinct granules, which are masses of food in a partial stage of digestion; but I have never been able to confirm Bourguignon's statement, that prior to their ejection from the anus they are contained in a short canal, which he denominates the rectum.

The dorsal aspect is convex, rising like an arch in the centre, and sloping towards the sides, which terminate in a free edge, the line of union of the upper and lower surfaces. The former offers the following appendages, which may be divided into three sets:—firstly, a number of small triangular elevations, giving to the eye an appearance of so many thorns, attached by their base, and ending each in a sharp-pointed apex. The majority of these are oblique in their direction, and disposed in concentric lines; in number they range from fifty to eighty. Secondly, conical projections, less numerous than the

preceding, but more scattered in their distribution, and chiefly developed towards the lower third of the same aspect; they appear to originate from a kind of papilla, but whether their interior is hollow or not, it is impossible to say. Thirdly,¹ of much smaller size, and situated between the first-named processes, are a few blunted eminences, seldom exceeding five or six in number. Their purpose is to facilitate the movements of the animal, and to enable it to penetrate with greater ease the skin. The abdominal surface is destitute of those cuticular developments, which are observed on the upper; the former is also irregularly convex and concave. Extending to about a third of its length in the middle line is a long narrow plate, the representative of the sternum. As it approaches the head it bifurcates, and each branch again divides into two; of these, the outer one takes part in the formation of the framework of the first pair of legs, while the other is continued along the side of the head. Two more plates are also seen originating nearly in the same line as the sternum, passing outwards and forwards to give attachment to the second pair of legs (Plate VII., figs. 11, 12). The front legs are exactly similar to each other, and a description of one will therefore suffice for the rest. The limb resembles a truncated cone, attached by its base to the body, and at its distal extremity showing two or three hairs. It also displays in the latter situation a sharp curved process, and gives support to a long and cylindrical hollow tube, which terminates in a round sucker. The endo-skeleton of the leg is made up of a number of distinct pieces, to which delicate muscular fibres are attached. The

¹ According to M. Bourguignon, but I have not remarked them.

first consists of a complete ring, convex in front and concave behind ; the piece succeeding to this is rather triangular in figure, and at its apex, where it joins the first ring, is a joint. The same process of construction is repeated in the following two or three rings, each of which undergoes a proportionate diminution in size, until the extremity of the cone is reached.

The hind legs, four in number, are arranged in pairs, one on either side. Each arises from a single and slightly curved plate connected with the abdomen. After descending a short distance, it divides into two branches, which are afterwards united by a cross-piece or bar enclosing an oval space not unlike a stirrup. Proceeding downwards, three or four horizontal bars, in reality segments of circles, may be observed, separated by distinct intervals until they reach a point where two or three prominences are presented, and at this part there arises a long hair.

The above description of the acarus applies only to the female. The male is very difficult to detect, owing to its smaller size. It is distinguished by its more hexagonal shape, and by suckers on the inner pair of hind legs (fig. 10), which are mainly used in copulation. The generative organs show a distinct penis, which is surrounded above by two crescentic folds of skin.

Male
acarus.

Function of generation.—The eggs of the female insect have been variously computed from 25 to 50. Like the elements of nutrition, they occupy no proper receptacle, but are distributed throughout the body. According to Bourguignon, four eggs are laid at a time, and the process of incubation extends over three or four days. During this period the insect remains motionless in its furrow. The eggs are placed either in pairs, the

Function
of genera-
tion.

outer surface of each touching the walls of the furrow, or they are disposed in a single line. They are ovoid, regular, and larger at one extremity than the other; white, they present the appearance of a vesicle containing fluid. The exterior envelope is devoid of fibres, and contains in suspension a number of dark granules. No appreciable difference is perceived during the first twenty-four hours, but in the following day, and still more plainly in the third, most of the granules have disappeared, and their room become supplied by vesicles or cells, which increase in number and in volume. At the close of the fourth day a second membrane is provided, which is in direct contact with the embryo, while the first merely protects the egg, and a distinct interval is left between the two. On the fifth are already distinguished, at one extremity of the egg, two processes formed of the cells, which are the rudiments of the feet. This change rapidly proceeds in the next three days, and on the ninth the legs are completely developed. The head is now in the course of formation, and the lips and mandibles soon become distinct. On the twelfth day the insect is entire, with the exception of the second pair of hind legs, which are not fully seen until a later period.

The young acari soon make their escape from the furrow, and are very agile. They quickly move from place to place, and offer the readiest means of communicating the complaint.

Caniculi. The caniculi are the furrows in the cuticle, produced by the female insect, and intended for the reception of the ova. They are small serpentine or wavy lines, about the eighth of an inch in length, and generally of a whitish colour. They lead to a little red or grey

elevation of the skin, which must not be confounded with either vesicle or pustule, and can usually be detected only with the aid of a good magnifying glass. The insect may generally be found by introducing the point of a pin or a needle in this elevation. Unless the case be a recent one, much difficulty is often experienced in extracting the acarus. It is most readily obtained in children, or from the fingers of the adult, or the wrist. Hebra speaks of the caniculi being frequently met with, at the line of junction of the sole with the inner margin of the foot. Before attempting to search for them, we should take care that the part is made perfectly clean. The male acarus has no furrow; he either burrows a short distance in the cuticle, or is found on the surface.

When the female intends to penetrate the skin, she raises her body almost vertically with the head downwards, and burrows at first in this direction. As soon as she reaches the deeper layers of the epidermis or the cutis, her progress becomes easier, and her course is changed from perpendicular to oblique. In about twenty minutes, she disappears altogether from the surface.

The acari that infest the lower animals are not, I believe, transmissible to man. On examining a large number of the former, which have been recently added to the Hunterian Museum by M. Bourguignon, it is easy to perceive, that gradations of structure are more or less evident in each. The nearest approach to the *sarcoptes hominis* is afforded by the itch insect of the llama, shown to me by Dr. Maddox; or by the same parasite of the common rat, to either of which the comparison with that of the human itch is almost identical.

Acari of
the lower
animals.

Period of
incubation.

A certain period of incubation is required from the moment of contagion, before the disease is developed. This preparatory stage is uncertain in its duration. It is said to extend usually over three or four days, but I believe that, in the greater number of cases, a much shorter time will be quite sufficient to produce the eruption. I have known all the characteristics of scabies to be complete within ten hours from the time of actual contagion. Warmth greatly tends to hasten the maturity of the ova, and favours also the movements of the young insects.

Symptoms
of scabies.

The symptoms of scabies differ greatly, but in all cases itching is an invariable sign. At first it is slight, and scarcely felt in the day; so that if the patient at this time refrains from scratching, the eruption will not occasion him much inconvenience. At night, and particularly when warm in bed, the itching increases; but it is not until thirty-six hours or more have elapsed, during which time the disease as a rule rapidly extends, that this symptom has reached what may be called its limit. The itching now becomes almost insupportable, and equally so is the desire to scratch, which is indulged in for its own sake. It is important to keep in mind this feature of scabies, inasmuch as it is unattended by those accompaniments of burning or pain, which so often distinguish the progress of other cutaneous complaints.

A frequent locality of scabies is the hand, as the sides of the fingers, and the inner margin of the wrist. In the former situation, small transparent vesicles are observed either singly or in groups, while in the latter, a number of round and distinct pustules are in general perceived; or, the pustular stage has passed, and scabs

have succeeded, which occupy a red ground. Sometimes the eruption assumes an eminently papular character from its commencement, and the front of the forearm is covered with papules and much resembles 'goose skin,' save that it is more persistent. A similar condition, but one less aggregated, occurs on the face or scalp; for when this part is attacked by scabies, in my experience it is always in the papular form. The generative organs are not seldom the seat of scabies, and the earliest sign of it on the penis is a papular eruption, with more or less redness. I have even known it to be entirely confined to this locality. Again, the scapular region, or the loins, may be partially or completely covered by papular scabies, in which case there is much desquamation of the cuticle, and in such instances the axilla is generally implicated at the same time. In another and a numerous class of cases, the sole evidence of scabies is afforded by a few papules, not more perhaps than half a dozen in number, and scattered chiefly over the arms or front of the chest.

Papular
scabies.

The vesicular stage approaching to pustular, and sometimes not without difficulty diagnosed from eczema, may be often seen on the back of the hand or the fingers, or it may be limited to the front of the elbow-joint, where the delicacy of the cuticle affords a ready passage for the insect to burrow. In like manner, the nipple of the female, a situation often overlooked, is apt to be affected by scabies; around its margin the skin is excoriated and painful, and a slight discharge proceeds from the nipple at its base. The vesicular character is sometimes more widely spread, and the vesicles are

Vesicular.

larger and no longer conical.* An interesting example of this kind came under my care in a child at the Skin Hospital, whose forearms presented on their posterior aspect a great number of distinct and hemispherical vesicles, which were mostly surrounded by a red base. In some places, the vesicles had become semi-purulent, and the corresponding crusts gave to the eruption an appearance very like that of impetiginous eczema. The sides of the fingers were also affected, but no signs of the eruption could be observed elsewhere. Four of her brothers were suffering in a similar manner.

Pustular.

Another form of scabies is remarkable for the size and thickness of its crusts or scabs, which almost rival those of ecthyma. They often appear isolated, and in most cases are seen on a wide and red patch to involve one of the larger joints, as the axilla or the groin; in the latter region, the disease extends more or less along the abdomen or the thighs. Sometimes the back of the elbow presents a large and prominent crust caused by scabies; or the scalp in infants, may be partially covered with a thick collection of scabs, dry and fissured, and unattended by any inflammatory margin. There is no spot, from the scalp to the sole of the foot, which may not be the seat of this disease. The latter situation in children, in whom the skin still retains its softness, is frequently selected by the acarus, and is very characteristic. A number of pustules, interspersed with vesicles, appear in this region or between the toes, or with further evidence of the eruption in other parts. Pustular scabies is generally noticed on the hands, which may be in consequence almost entirely covered with true pustules, and this sometimes is the only part

attacked. The irritation is often less than might be expected, considering the appearance and character of the complaint. In certain examples scabies is distinguished for the large size and semi-purulent condition of the pustules, and their irregularity in shape, as on the buttocks, no infrequent situation in women or in children. When pustular scabies yields to treatment, which it soon does, smooth and red stains are left on the surface, similar to those occasioned by impetigo or porrigo. In this respect, it differs from the papular variety, in which the natural colour of the skin is speedily regained.

In this enumeration of the different signs of scabies, I have supposed, what may occur in the chronic form of the eruption, that the presence of the *acarus* is wanting, or at any rate that it is not discovered. Its detection supplies evidence conclusive of the complaint, which, we can well understand, will be modified by the stage of development at which the parasite has arrived, or by its sex, however impossible it is to draw the line of distinction in these instances. The result is likewise influenced by age; and children, as a general rule, suffer more severely than adults; and of the latter, those in particular who possess a tender or sensitive skin. There is much truth in the remark, that scabies is masked by the scratching consequent on its irritation, and therefore a paralysed limb affected with the disease offers in this respect the fewest complications. Often there is an absence of any history of contagion, and I am acquainted with no complaint, from its power of simulation, as I said at the outset, so difficult sometimes to determine as this.

Causes.

There is but one cause capable of producing scabies, and that is, direct contact with the living animal. On this point, however it may be controverted, I conceive there can be no reasonable doubt. Dirt and an absence of proper cleanliness may act as predisposing causes, inasmuch as they furnish a retreat for the insect, and so favour the growth of the ova, but they do not constitute its real origin. Many cases of scabies are seen in a class of patients far removed from the filth and wretchedness attendant on severe distress; and instances are not rare of its occasional occurrence in others of a higher rank of life, and who give every attention to personal ablution. Experiments have been made with the fluid in the vesicles, or the pustules of the dead insect, by inserting one or other of these beneath the skin in a healthy individual, but they have uniformly failed in propagating the disease. Hardy has observed that at St. Louis, the number of patients affected with scabies is considerably larger in the winter, as compared with the summer months, and explains this difference by referring the greater readiness of the eruption to be communicated from one patient to another when in bed; in Paris, it is an usual practice for the poorer classes to huddle together for the sake of warmth at this season of the year. No doubt scabies is frequently caught in this way, but the sources of contagion, it should be remembered, are multiple. Indeed, my investigations with regard to the relative frequency of scabies, at any particular period of the year, do not accord with the opinion expressed on this point by M. Hardy. Thus, in the year 1863, the number of new cases at the Skin Hospital during the months of January and June were 33 and 35 respectively, while

in March they reached 41 ; and in the preceding year the results were nearly the same. The total numbers during the year 1862 and 1863 amounted to 597 ; and an analysis of the cases, as they occurred in each month throughout that period, failed to show a marked excess in one month compared with another. It might have been expected, from the well-known influence of warmth in calling animal life into activity, that an increase would be exhibited in the summer, but such did not prove to be so. In the above number, 597, almost every trade was included. As a class, butchers appear to be the least liable to scabies, while general dealers and leather dressers are the most so. A large percentage is contributed by drapers' assistants, policemen, and warehousemen ; and in the other sex, general servants and sempstresses are well represented. Hebra remarks that amongst shoemakers, those parts of the body which are exposed to friction and the warmth of the clothes, as the back of the thighs, are often the seat of scabies. However this may be, I have noticed that in blacksmiths the hands for the most part escape, even when the complaint is general elsewhere.

Scabies always admits of cure. It is not a relaps-
 ing complaint, or one which disappears at one period
 and returns at another ; but it never subsides spon-
 taneously. Of its varieties the papular is the most
 contagious. Sometimes scabies causes urticaria, par-
 ticularly of the face, as noticed by Mr. Startin ; or it
 furnishes the occasion of the development of another
 disease, as lichen, and in advanced life of prurigo. In
 children that have been much neglected, it is often as-
 sociated with porrigo and ecthyma ; but the most fre-
 quent complication, equal to one in twenty, is eczema.

Prognosis.

In some few instances scabies coexists with psoriasis or tinea tonsdens.

Treatment. There are several external agents, that may be employed in the treatment of scabies. In the first rank is sulphur, a remedy of long standing repute in this disease, as its effects in causing destruction of the insect are sure and speedy. The methods of employing it are many ; but in any case, it is desirable that the patient should remain from a quarter to half an hour in a warm bath, and freely apply the common yellow or soft soap to every portion of the skin, before using it ; where the skin is hard and dirty, a preliminary bath or a wash with soap and water is essential. The compound sulphur ointment is as good a preparation as any, and with the addition of from half to a drachm of the carbonate of potash, its efficiency is much increased. It should be well rubbed into the whole surface, and especially where the eruption is actually present ; about the larger joints, as the groin or front of the elbow, its application should be less rigorous, as these are apt to suffer afterwards from eczema. The patient on going to bed must be careful, that no fresh risk is likely to arise from sleeping between sheets or blankets already exposed to contagion ; and the same remark applies to any clothes, which he is about to wear. These should be well washed before use, and the linings of hats, caps, or bonnets renewed, if possible ; in the case of cloth garments, they should be subjected to sufficient heat to destroy animal life, by placing them for some minutes in an oven at a temperature of 190° F. As an adjunct to the treatment, I generally advise the following plan, which is easy of application, to fumigate the clothes ;

those at least which are of wool, and not easily washed. About half an hour before he retires to rest, the patient's bed should be thoroughly warmed; the old-fashioned pan answers extremely well, half filled with hot, but not live cinders, on which are sprinkled a small teaspoonful of powdered sulphur. Between the upper sheet and blanket are placed the clothes in daily use, where they are allowed to remain until the following morning. By pursuing this process for two or three nights in succession, there will be little risk left of contagion, either as to the patient's garments, or the bed clothes, which there is not the least occasion to destroy. If procurable, I recommend, in addition to the above treatment, in the case of an adult, the sulphur vapour bath daily, as it materially expedites a cure. Should any suspected vesicles or other signs appear after apparent recovery, the application of the above-named ointment will disperse them, or the patient may paint any such spots with the pure liquor. carbonis detergens twice a day, and allow it to dry on. To disguise the odour of the sulphur, it will be enough to add two or three drops of creosote, or oil of rosemary, or sandal wood, to each ounce of ointment, while the addition of a few grains of bisulphuret of mercury will effectually conceal its colour. Sometimes in children, or in women, if the skin be more than ordinarily sensitive, the carbonate of potash may be omitted, and the sulphur itself reduced in quantity.

Among other applications for scabies may be mentioned mercury, in the form of an ointment, as from ten to thirty grains of the white precipitate to an ounce of lard. This will accomplish a cure, but it requires

for that purpose a longer period than the sulphur. The common and inexpensive oil of petroleum I have tried, and it answers in some cases exceedingly well, applied by means of a soft brush or the feather of a pen. It is most serviceable in children, as it is little likely to irritate a delicate skin. It leaves, however, permanent stains on the linen, which no subsequent washing can efface.

When rapidity of relief is the object sought, there is no remedy that I know, equal to sulphur and lime, prepared in the following manner:—two parts of sublimed sulphur and one of quick lime are boiled together in ten parts of water. During the time of boiling, these ingredients should be stirred with a piece of wood, and when quite combined, the fluid should be decanted and kept for use in a stoppered bottle. The patient dips a brush made of bristles, for one of camel's hair soon becomes useless, into the fluid, and proceeds to paint the part affected as well as the surrounding skin. If the complaint be extensive, the whole or greater portion of the surface should be treated in the same way. As the fluid dries on, it leaves the skin of a bright yellow colour, from the powder which is deposited. No interference should be permitted for at least five or six hours, when a bath may be had, which soon removes the powder, except when vesicles have formed on the apices of the papules; the latter still retain their size, are rough to the touch, and dotted at their summits with a yellow speck, which does not disappear sometimes for several days. A slight smarting pain may follow the application of the fluid, but it subsides in a few moments. Should the patient not be quite relieved after a single trial, he may, as directed above,

apply the same kind of mercurial lotion. This plan of treatment I have found of most utility in private. In hospital practice, and in the case of a number of children of the same family becoming affected, they are too frequently left to apply it to one another ; or else the liquid is rubbed into the skin instead of being painted on the surface, a proceeding which leads oftentimes to great irritation in the part.¹

When eczema succeeds scabies, it is a result of the sulphur used in some form to the surface, and appears usually wherever the skin is most sensitive, as the front of the elbow or the trunk ; but the attendant secretion is seldom great. The itching, nevertheless, is severe, and large patches of eczema are often thus produced. If in the course of treatment this after consequence should arise, it is important that it be not overlooked, as a continuance of the remedy will certainly aggravate the patient's distress. The affected surface should be washed with the yolk of egg and warm water, or thin starch, and then smeared lightly with an ointment of benzoated lard alone, or else containing lead, or the oxide of zinc. With this simple treatment, and the internal use of an alkaline aperient, the eruption will in general decline, and subside altogether in the course of a few days.

Pediculi, or *lice*, constitute another description of *Pediculi*. animal parasites that occasionally infest the human skin. They derive their nutriment from the blood or

¹ This treatment, I believe, was first introduced by Dr. Nicholls, Surgeon to the Royal Wilts Militia (*Medical Mirror*, March, 1865). He recommends the preparation to be well rubbed into the body, the scalp and face excepted, for half an hour, and then washed with soap and hot water. Under this plan he says, that the men of his regiment are only kept in the hospital for two or three hours.

other tissues of the body, but do not burrow, like the itch insect, beneath the epidermis. They comprise three separate varieties—*pediculus pubis*, *pediculus corporis*, and *pediculus capitis*; and are readily communicable from one individual to another.

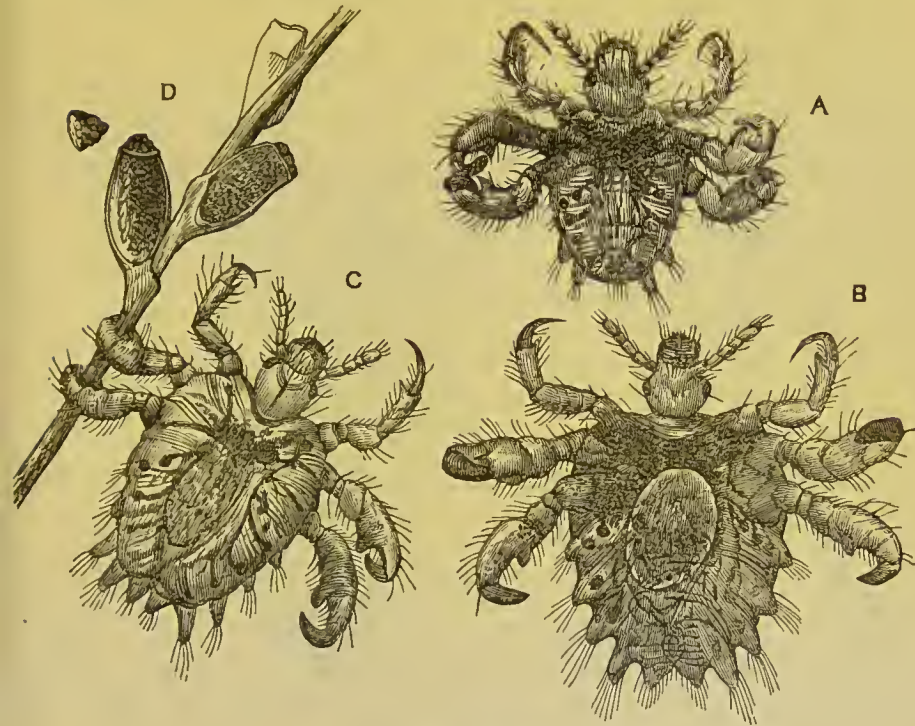
*Pediculus
pubis.*

Pediculus pubis is generally found in the hair about the generative organs, but may occur in the eyebrows, eyelashes, or whiskers. It exhibits the following symptoms:—A number of small red spots or specks, caused by the bite of the creature, may be observed around the roots of the hair, and the intervals of skin between them. Interspersed among the hair is a quantity of minute red granules, the products of excrementation from the insect. The hairs, many of them, are covered with a slight viscid or glairy secretion, and often stuck together. Lastly, the little animals are not always recognised unless in motion, owing to the transparency of their bodies; but no sooner do they begin to crawl or move their feet, than their discovery is easy. It is generally a difficult matter to remove the insect alone and without injury. If we wish to preserve one of them, the best plan is to cut off the hair with it close to the root. Unless the pediculi are speedily destroyed, the irritation occasioned by their presence soon becomes unendurable, and torments the patient night and day, but far worse at night. When in numbers, they exist likewise among the patient's clothes, which are more or less soiled in consequence.

Anato-
mical cha-
racters.

The female is the larger of the two, and distinguished by the greater width of its body. No actual line of demarcation separates the thorax from the abdomen: to the former are attached three pairs of legs, remarkable for their strength, of which the anterior is

the smallest. Each consists of three segments, the final ending in a large claw, inclined inwards and intended to grasp the hair. On either side of the abdomen, and more apparent on its ventral aspect, are four eminences, surrounded by small and pointed hairs; and on the summit of each elevation is contained the aperture of a



Crab lice (full grown).

A. Male.

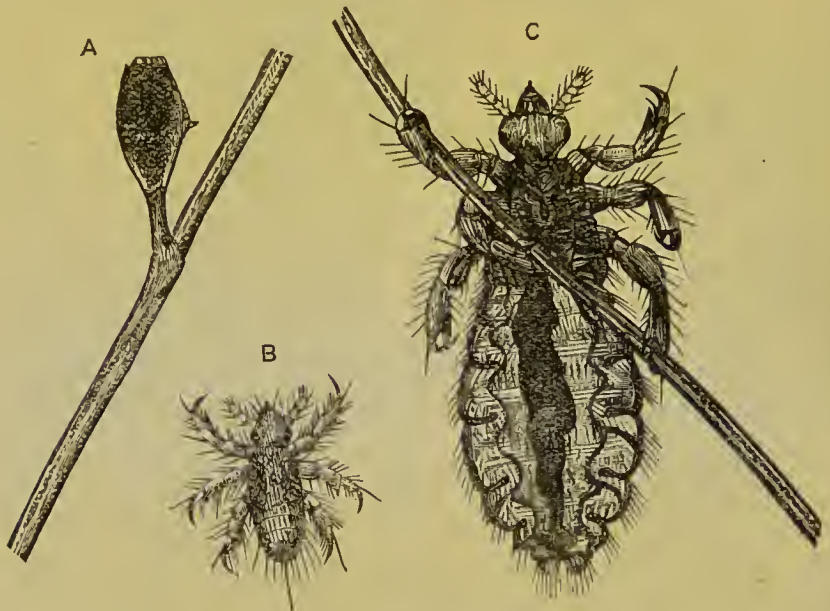
B. Female, with ovum.

C. Female (impregnated).

D. Ova attached to a hair.

respiratory tube; for we may trace running along the whole length of the creature, on both sides, a hollow canal, united inferiorly by a cross branch. From the inner side of the parent or larger tubes, which may be seen to extend as far as the head, are numerous small branches, which permeate the entire body. The vaginal

orifice is placed near the last segment of the abdomen : leading into it are two oviducts, arising each from a single ovary. The head is distinct from the trunk, and furnished with two prominent eyes, immediately in front of which is a pair of antennæ. The latter are composed of four small pieces, of nearly equal size, and each at its base is provided with two short hairs. The antennæ are capable of motion in any direction.



Head lice.

A. Hair, with ovum attached. B. Young. C. Female (full grown).

Symptoms
of pedicu-
lus capitis.

The symptoms of *pediculus capitis* are known by the pediculi being scattered throughout the hair, which they traverse with great rapidity. They are in general most abundant about the crown of the head ; and are easily perceived by their light colour and slender form, especially amongst dark hair. We may often detect numerous small circular and semi-transparent bodies,

which are the ova, and popularly termed 'nits,' attached to the hair at various points. These, on examination, will be found somewhat peculiar in shape, and surrounded by a small cup at their free extremity; narrow towards the opposite end, they are attached to a pedicle or stalk. The latter is glutinous and prolonged for a variable distance on the hair itself, extending to the animal's foot, with which it is connected. In fact, there is little doubt, as Dr. Maddox has remarked, that the base of the claw secretes the glutinous matter, which is regulated in quantity by the requirements of the insect. The degree of irritation that the patient experiences is, for the most part, determined by their abundance. If, for instance, their number be small, the patient may suffer little inconvenience, and their presence is then usually an accidental discovery. On the other hand, when present in large quantity, the irritation and itching they give rise to will generally attract the patient's attention to it.

There are many diseases of the scalp, which favour pediculi. In favus that has long remained neglected, lice may be frequently seen in the crevices of the crusts, which afford a convenient place for the reception and development of the ova. Sometimes in porrigo or in eczema the same thing occurs, but in any case it is the complaint of the skin which is the occasion, and not the cause of the parasite. The spontaneous generation of these creatures is a point on which there exists a difference of opinion. Great difficulty is involved in an investigation of this nature; but if it be possible for pediculi to be developed spontaneously, it would occur in long hair which has been allowed to remain uncombed

and unwashed for a considerable period ; and in many such cases they certainly abound.

Descrip-
tion of
head louse.

The head louse has a long and narrow body, and is much quicker in its movements than the crab louse. It possesses an equal number of legs, but the anterior pair are the strongest, and each presents in addition to a terminal claw, another of small size at the base, which furnishes the secretion above alluded to. The abdomen of the female shows six distinct segments on either side, and an opening in the centre of each, corresponding to the stigma. Posteriorly are two angular projections of equal size, separated above by the oval orifice of the vagina. In the male, this part of the body is round, and above it is seen the penis.

Body louse.

The *pediculus corporis* differs chiefly in size from the last. The head and thorax are very much the same, but the abdomen is relatively broader. In the male the lateral segments are not so prominent, and the corresponding parts in the female are constricted at the base, which is not so in the head louse. Moreover, in this sex, we may perceive that the abdomen ends in two small tufts, separated by a wide but not a deep interspace. In the male the penis is of considerable length, and enclosed in a kind of sheath.

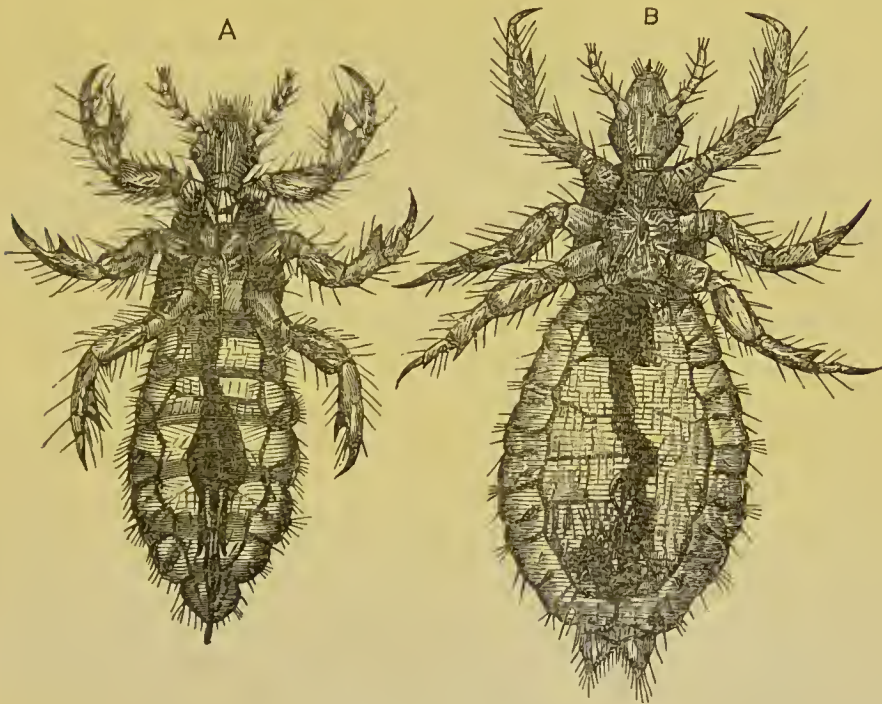
Symptoms.

The symptoms occasioned by the body louse closely resemble those resulting from the *pediculus capitis* ; the folds of the garments which are worn next the skin, as around the waist, neck, or chest, will contain a large number of the ova. The skin is rough, and in severe cases presents red elevations or pustules, many of which have become torn by the nails of the patient.

Rate of
increase

Of the rate of multiplication of these creatures, we may judge from an experiment conducted by Leuwen-

bach, who enclosed two females in a silk stocking, which he wore night and day. 'At the end of six days, without visibly decreasing in size, each had deposited 50 eggs; at the end of 24 days the young ones had produced others in such numbers, that in the course of two months these two females might have some 18,000 of their descendants.'



Body lice (full grown).

A. Male.

B. Female.

Cases are cited in which a patient covered with lice has been placed in a warm bath, and removed from every source of contagion, and yet in a few hours the lice have reappeared to the same extent as before. In such instances, no doubt some of them were not entirely removed, and to this cause, and not to any peculiarity in the skin itself to generate them spon-

taneously, is their production to be explained. The reported deaths from phtheiriasis alone are unworthy of belief: at the same time it is quite possible that in a patient reduced nearly to the last extremity by disease, the existence of pediculi in numbers may accelerate the final result, without being its immediate cause.

Treatment.

No treatment is more simple than that which has for its object the destruction of pediculi. When they are found in the vicinity of the pubes, we should direct the patient to sponge the affected surface several times daily with a lotion containing two grains of the bichloride of mercury to each ounce of equal parts of spirits of wine and water. At the end of twenty hours, or less, he will be mostly rid of any further annoyance in this respect; the alcohol is not only hurtful to the insect, but destroys the vitality of the ova. Previous to the application in the first instance, the patient should wash the part thoroughly with soap and water, the latter to be quite hot; and afterwards, as in scabies, he should avoid the contact of any garments, which are not thoroughly purified or clean. In the case of a patient, who is not likely to obey these instructions, we may order at once the ordinary mercurial ointment to be applied. This should be well rubbed over the whole affected part and its neighbourhood. One application will be enough, and it should be allowed to remain on for two or three days before it is washed off. A lotion similar to that mentioned above will also be advantageous in pediculi affecting the head, and is also more cleanly than the ointment.

The same treatment may be adopted in the case of the body louse; but as this insect is generally more extensively developed, a remedy well known abroad in

such cases is to be preferred, viz., stavesacre ; one ounce of the powdered seeds are macerated for twelve hours in benzoated lard, and then strained through linen. The ointment is applied to the surface wherever affected ; and after twenty-four hours repeated if necessary. In Germany, where these 'louse seeds,' as they are termed, are well known, an infusion is made of them with vinegar ; or they are simply boiled in water, in the proportion of one ounce to two pints. Another agent employed for a like purpose is derived from the kernels of the *cocculus indicus*, added to five times their weight of lard. To this ingredient the capuchin powder is said to owe much of its repute as an insect destroyer.

CHAPTER XIX.

URTICARIA AND ERYTHEMA.

URTICARIA is generally classed among the exanthemata. It differs however from most in being non-infectious, and from all in the development of wheals, which give it a very characteristic appearance. The latter vary much in size, being sometimes small, isolated, and not larger individually than a pea; at other times, when they have coalesced, they may equal the palm of the hand in diameter. In shape they are circular or oval, and less frequently irregular. The centre of the elevation is almost always white, and often surrounded with a slightly-red halo. Several varieties are accorded to urticaria, but the difference in each is one of degree rather than of kind.

Acute
urticaria.

Acute urticaria is ushered in with signs, which can hardly be mistaken. The patient complains of headache, and of feeling giddy; an uneasy sensation is experienced about the region of the heart; the tongue remains clean, and there is little or no increase in the pulse; if the symptoms continue for two or three days, there is usually much heat of skin, and shivering, and nausea. Whatever be the part attacked, and it is commonly the front of the chest or the inner aspect of the limbs, an intolerable itching is felt; and on examination a number of wheals, as described above, may be

perceived. Should the complaint be very acute, and proceed from some indigestible article of diet being taken, vomiting and diarrhœa will probably occur, with great relief to the more urgent symptoms. When less severe, and the result of no apparent cause, the eruption, after a few hours' continuance, nearly or quite disappears. Sometimes the epidermis peels off in small flakes, but no stain is left on the skin.

Urticaria is generally a chronic affection, and liable to exacerbations, which, although periodical, are by no means regular in their invasion. When they occur, they may continue for three or four days, and afterwards not show themselves again for many months. During the period of its attack the irritation is extreme, and often much increased by the endeavours of the patient to obtain relief by scratching. Sometimes the only visible phenomenon is the evidence afforded by a red line on the skin, which is rapidly succeeded by a wheal, as when the finger nail is passed along the surface; in other cases, we may observe a slight tinge of redness communicated more or less to the whole skin, and in most the urine is loaded with lithates. It is said that in chronic urticaria no constitutional symptoms will be evinced, but to this rule there are many exceptions; and in such a case a patient who has previously suffered in the same way is quite aware of the approach of another attack; indeed, the general health frequently appears to be much improved after the complaint has, as it were, run its course.

Urticaria evanida, as its name imports, is sudden in its accession and equally so in its departure. It usually commences on the back of the hand or the forearm, of which it occupies either aspect indifferently.

*Urticaria
evanida.*

From thence it may spread over the greater part of the trunk or face, but mostly spares the palms of the hands and the soles of the feet. The patient experiences great tingling and heat in the part, and wheals arise exactly as when stung by a nettle. The wheals, especially if subjected to friction, increase in size, and occasion considerable irritation. After continuing for some hours, the local symptoms vanish as quickly as they come, and are neither preceded nor followed by any constitutional disturbance.

Urticaria
subcu-
tanea.

Under the title of *urticaria subcutanea* is described by Willan a variety, which seldom exhibits any symptom that the eye can appreciate. The patient feels a sharp or darting pain in the affected part, and mostly in the limbs. Sometimes slight and tortuous wheals may be noticed at intervals, but their disappearance produces no relief.

I have met with several examples of urticaria in children, and in infants of a few weeks old. The ordinary sign of a white blister is first perceived, which is succeeded by a red stain or patch, not raised but very distinct. The patches will sometimes linger for several days, and then they no longer disappear for the moment under pressure. Indefinite in size, although observing in most cases a circular shape, they may occur on any portion of the face, trunk, or extremities. In their origin they are extremely uncertain, and a portion of skin which to-day is apparently healthy may become in a few hours the seat of this complaint. The itching is most severe at the onset, and increases towards evening, or as the patient becomes warm in bed. At daybreak the wheals have to a great extent subsided, and the irritation is then inconsiderable.

It is frequently impossible to assign any cause to urticaria. Sometimes it arises from the ingestion of certain kinds of food, which however harmless to most people, cannot be indulged in with impunity by others; of this class many singular cases are related. Thus Neligan records two instances in which urticaria was always produced, in less than half an hour, after eating nuts or almonds, unless the brown skin which covers them had been previously removed; and I am acquainted with a case, in which the smallest quantity of the white of an egg was followed by a similar result. Various drugs, as copaiba, valerian, santolin, belladonna, or stramonium, have been known to occasion urticaria. Shell-fish, and especially mussels, when partaken of, have long been supposed to produce sometimes this eruption, and so have certain fruits and vegetables, such as melons and cucumbers.

Although urticaria is not contagious, a suspicion of its becoming so may arise, when we meet with it in two or more members of the same family. In such instances, the disease does not spread by contagion; it is dependent upon individual idiosyncrasy, the nature of which is unknown. Some hereditary tendency is, no doubt, the main cause, and the children or the parents are distinguished by the delicacy of the skin, which is more than usually sensitive. Whether in these or other cases, urticaria is greatly favoured in its development by heat; in the summer or autumn it will sometimes continue to harass the patient for years.

When the eruption is evidently due to some derangement of the stomach, no time should be lost in administering an emetic; one that acts speedily is to be preferred, such as the sulphate of zinc. It possesses an

Causes.

Treatment.

advantage over ipecacuanha or antimony, inasmuch as it is not followed by any depressing or lowering effect. As soon as the action of the emetic has ceased, an antacid aperient should be ordered, composed of the carbonate of magnesia and soda, to which may be added with advantage from five to ten minims of colchicum wine. The value of colchicum is advocated by Dr. Maclagan, who in his analysis of the urine in urticaria found a diminution of urea; by employing this medicine the urea returned in normal quantity. Sometimes a lotion of the bicarbonate of potash largely diluted, assists in checking the irritation. In chronic urticaria we may sometimes succeed, as in intermittent fever, in cutting short an attack at the outset by the administration of an emetic; or when it fails the acuteness of the succeeding symptoms will generally be lessened.

Erythema. Nearly allied to urticaria is that condition of the skin, which is known as *erythema*. It is characterized by a superficial redness of the surface, which diminishes or disappears momentarily under pressure. The redness is exhibited in patches, which sometimes irregular, are generally oval, and only slightly if at all raised above the surrounding level. The colour changes afterwards to violet or dark blue, and finally to yellow, as if the part had been bruised. The disease is not contagious.

Simple erythema. *Simple* erythema is a term, which has a wide sphere of application. As erythema *leve* or *fugax* it is often witnessed on the cheeks, which become hot and red. Some persons are particularly predisposed to it, and in them the redness is easily excited by warm or alcoholic drinks, or a heavy meal, or even by washing the face; it produces no pain, only a sense of heat and tingling,

and disappears in the course of a few hours. Erythema may become permanent, and in such cases is a common accompaniment of acne rosacea. The same term, or *symptomatic* erythema, is applied to the disease, when it is an exponent of some intestinal or acute visceral disorder. As a consequence of tension of the skin, we observe instances of it in anasarca and in pregnancy. Again, it may occur on the forearm as large red blotches—the result of an animal poison; and those who are in the habit of handling putrid game are frequently affected in this manner. In hot weather erythema will sometimes arise from bathing in the sea. There is a variety of this complaint, which is the precursor of bed sores, when the skin has been subject to constant pressure. Lastly, a similar redness of the skin may follow the track of any acrid discharge, as in purulent ophthalmia or leucorrhœa; or after the sting or bite of an insect, only that in the latter case there is more or less œdema.

Proceeding to the chief varieties of erythema, we notice, first, *erythema nodosum*, which is distinct from any other kind. It consists in the development of smooth ovoid, or hemispherical swellings, situated generally on the front of the leg, or below the elbow, with their long diameter parallel to that of the axis of the limb. Seldom do they occur above the knee, but nevertheless they may be found on the thigh or on the abdomen; in some instances, they have formed on the clavicle, ribs, or inferior maxilla. This disease is usually met with in girls, or in delicate boys; sometimes it appears at a later age, especially in women in whom the catamenia are irregular. The average length of the swellings is from one to two inches; they are

Erythema
nodosum.

somewhat elastic to the touch, and slightly painful on pressure. In their progress they show the above successive and peculiar changes in colour, while at the same time they diminish in size, and assume a softer condition, which may be mistaken for fluctuation. The constitutional symptoms vary considerably in different cases, and are seldom entirely absent. They are most marked, when the eruption takes place after puberty. In the course of from ten to fifteen days erythema nodosum usually declines, but as one swelling vanishes another will sometimes appear, and thus the complaint may be prolonged for several weeks. In some instances erythema nodosum is connected with rheumatism, or its cardiac complications.

Erythema
papula-
tum.

Not less distinguished for its own peculiar characters is *erythema papulatum*. This is known as an eruption of circular or oval spots, which range in size each from a pin's head to a fourpenny-piece, and may become as large as a shilling. They are much raised, somewhat flattened, and of a dull red colour. Usually they are quite smooth, and thickly scattered; the intervening portions of skin being sound. The spots retain for a length of time their original extent and form, and as the disease subsides they either fade gradually, or coalesce into irregular groups of a brown or bluish hue. In this stage their surface is covered with cuticular desquamation. At times there is very great itching, often preceded by a burning sensation in the spots, which is more felt at night, and generally worse about the waist. The eruption often commences on the forearm or back of the fingers, and may remain confined to these parts, or it may spread to various regions, but I cannot recall an instance in which the

upper extremity was wholly free. The patches attain the largest size when developed on the abdomen and chest.

Erythema papulatum is essentially a chronic complaint. Sometimes it lasts for months or years, disappearing entirely for many weeks and then recurring in its former locality; many instances, however, have come under my observation in which no relapse has taken place. It is an affection of adult life, and much more frequent in women than in men. Although its characters are in general sufficiently obvious, few cutaneous diseases are less frequently recognised. For example, it is apt to be mistaken for a syphilitic eruption, from which it differs in the following respects; in the general health being unaffected, and the absence of other syphilitic signs, as well as in the attendant irritation; secondary syphilis is seldom irritable, while the itching in erythema papulatum is at times almost insupportable; and lastly in its situation. Erythema papulatum may, however, be syphilitic, and is in that case chiefly recognised by its departure from the usual and distinctive features of erythema. From lichen it differs in the large size of its spots; and from psoriasis guttata, which in its final stage it much resembles, by its patches being more elevated, separate, and smooth.

Erythema marginatum is rare, and like the last variety generally chronic. The patches are sometimes as large as the palm of the hand. They are few in number, and principally seen on the lower extremities. They vary greatly in colour, from a yellow to a purple or livid. What gives a separate character to this complaint is a thickened state of the subcutaneous tissue, corresponding in size to the patch, and detected

*Erythema
margina-
tum.*

on the least pressure. It is mostly associated with indifferent health, and the hardness beneath the skin remains a long time.

Erythema
intertrigo.

Erythema intertrigo is situated at the flexures of the large joints, and particularly the groin; sometimes at the elbow or the side of the neck. The skin is bright red, and smooth, and fades under pressure. Well-marked lines are also seen on the affected surface, which display a deeper and more persistent colour. The complaint is generally witnessed in women, who have a fair skin. It is provoked by friction of the clothes or excessive warmth. In fat children it often occurs on the buttocks, and unless great cleanliness be observed, is apt to occasion a thin or semi-purulent secretion.

Erythema
circinnatum.

In erythema *circinnatum* the red patches form irregular segments of circles, which are in most cases of a yellowish colour, and slightly depressed at their centres. Smooth, except at their margin, they are of variable size, but seldom larger than a florin.

Diagnosis.

Whatever situation simple erythema may select, the surface is at first always smooth and red, and gradually fades at the border of the patch, changing its colour to violet, and afterwards to yellow; it is in this respect diagnosed from other diseases of the skin. When two adjacent surfaces are in contact, as in erythema intertrigo, a slight glairy secretion may exist between them, but at no period is it colourless, like the exudation of eczema. The seat of erythema nodosum and the form of the tumours to which it gives rise will seldom lead to any difficulty in its determination. The means of distinguishing erythema papulatum I have already alluded to; and with regard

to erythema circinnatum, it is mainly known by its central yellow tinge.

The necessary treatment of erythema nodosum is generally slight. The constitutional symptoms are usually so little disturbed that little more is required than an aperient, followed if necessary by effervescing salines. Any local uneasiness will in a great degree be benefitted by the patient remaining in bed or on a couch, and by elevating the feet, should the lower limbs be the seat of the attack. If the affected part be hot and uncomfortable, water dressing, cold or warm, according to the feelings of the patient, may be applied, or in place of it goulard or spirit lotion. When the febrile disturbance has abated we may administer a tonic, as calumba or cinchona, with or without some preparation of iron. Quinine is very satisfactory in its results in chronic and relapsing cases. Treatment.

As an acute affection erythema papulatum is in general easily managed, but becomes less so when it has lapsed into a chronic form. After any febrile symptoms have been subdued by the usual measures, much relief may be expected from the internal use of iodide of potassium. This medicine, administered in three-grain doses, with salines, often moderates the severity of an attack. Irritation is also lessened by sponging the affected surface several times in the day with a weak nitric acid lotion, or by keeping a piece of wetted lint constantly applied to the part. Sometimes nitric acid is more effectual, when the carbolate of glycerine is added to it. One ounce of the carbolate to eight ounces of water and a drachm of dilute acid is an agreeable and soothing application. At other times, and at night,

a mercurial ointment lightly smeared over the spots is an excellent application.

In the treatment of local erythema, as erythema intertrigo, and also in that erythematous condition of the skin produced by warts or any acrid secretion, cleanliness is of the first importance. After washing with tepid water and a soft sponge, and taking care that the part is properly dried, we may proceed to dust the surface with powdered starch or calamine, or apply a lotion of black or red wash, on a clean rag. This should be repeated as often as is necessary, and will generally prove sufficient. In erythema due to continued pressure on a prominent bone, as the sacrum or hip, in cases of injury or illness, our first object should be to relieve that pressure ; and if the skin be unbroken, rectified spirit and camphor in equal quantities, or brandy applied on lint, will harden the cuticle, and so diminish the chance of a lesion. Should this, however, have occurred, more benefit will arise from the application of a weak solution of the chloride of soda, and the use of a water bed.

CHAPTER XX.

ELEPHANTIASIS.

Elephantiasis Græcorum, or *tubercular leprosy*, or *leprosy*.—Without entering into any argument as to the identity of this disease with that so frequently mentioned in Holy Writ, or described from the earliest dawn of profane history as existing in Egypt, there can be no doubt that if we refer to the records of the 14th and 15th centuries of our own era, we shall find abundant evidence of its ravages over the greater part of the continent of Europe, and that the inhabitants of these islands were in no way exempt from it. Happily rare among us at the present time, the complaint nevertheless prevails to a great degree, in Norway, Denmark, and Greece. In the East and West Indies, and along the shores of the Mediterranean, it is not at all uncommon. For an interesting addition to our knowledge of leprosy we are indebted to a professional visit paid by Dr. Webster to the Hospital for Lepers at Granada, founded by Isabella, and supported to this day by the Spanish Government. The results of his inquiries are embodied in a paper which was read before the Medico-Chirurgical Society in 1854, and to the facts therein contained I shall have occasion to allude.

Leprosy is much more common in the male than the female. Of 284 lepers who were reported in Spain in 1851, 188 were of the former and 96 of the latter

Elephantiasis Græcorum.

Ratio between the sexes.

sex; and at the period of Dr. Webster's visit the ratio between the sexes was 35 to 14. The experience of Mr. Day confirms this statement as regards the greater prevalence of this affection in the male among the natives of Madras. In Bombay, at the Jamsetjee Jeejeebhoy Hospital, where all classes of natives are admitted, the proportion is still higher than the preceding. At the seat of this latter Presidency the disease is well known among the natives; it is not restricted to caste, but affects the Anglo-Indian, Portuguese, Parsee, Jew, Mussulman, and Hindoo. Although comprising two divisions, the tubercular and the anæsthetic, it must be understood that these are frequently united in the same person, and that the latter is often found to merge into the former variety of the disease.

Age of its
occurrence.

The following table shows the percentage of ages as given by Mr. Day:¹—

Below 10 years	4 per cent.
From 10 years to 20 years	6 „
„ 20 „ 30	„	22 „
„ 30 „ 40	„	22 „
„ 40 „ 50	„	32 „
„ 50 „ 60	„	2 „
„ 60 „ 70	„	10 „
Above 70	„	2 „
		<hr/> 100

Elephantiasis is comparatively rare under puberty. Its effect in shortening life is variously stated by different authorities. Although it may show itself at any age, yet when it happens in the young subject or before puberty, the general signs indicative of the latter are

¹ *Madras Quarterly Journal of Medical Science*, 1860, p. 289.

deferred beyond the usual time ; the hair becomes scanty and ill-formed, and the whole frame ill-developed. Moreover, when it appears at this period of life the patient seldom survives beyond a few years.

Anæsthetic leprosy occurs in patches and is characterised by a want of sensibility in certain parts of the skin. The latter are small, circular, and serpiginous ; sometimes little elevated above the surface, and in size ranging from a threepenny to a crown-piece. In colour they may be almost white or reddish, and at the margin of a light brown. They are found on any portion of the trunk or the extremities ; or on the face, as the forehead, cheeks, or lobes of the ears. Sometimes the patches coalesce, in which case a large extent of surface is occupied by the discolouration. It is in their centre that anæsthesia is most marked, not that this sign is confined to the patches ; it may extend along the greater part of the trunk or limbs, following the course of one or more of the nerves. The diseased surface is generally dry and wrinkled, mostly destitute of hair, and devoid of moisture. Sometimes the skin of the fingers or toes is shrivelled and covered with exfoliation of the cuticle. In a few instances a pricking pain is first felt, and in some an eruption of vesicles or bullæ are among the earliest symptoms. They soon burst and form ill-conditioned ulcers, which are slow to heal, and secrete an offensive sanies. After the discharge is reduced, the ulcer, although not extending at its circumference, increases in depth, reaching to or exposing the bones. The phalanges of the fingers or toes are in this way attacked, and become attenuated in their centre. Supposing one of the hands to be affected, the patient loses power over the extensor muscles, the hand drops,

Anæsthetic
leprosy.

and he is unable to straighten it. Although it may extend to the trunk, anæsthetic leprosy does not often commence in this region. It generally proves fatal through the supervention of some exhausting disease, as dysentery or diarrhœa.

Tubercular
leprosy.

Tubercular leprosy is preceded by a variety of symptoms.¹ Sometimes the first thing that attracts the notice of the patient is a numbing pain in the part, or there may be only œdema. More commonly irregular patches are observed, slightly elevated, and of a grey or brownish colour. On these patches are developed small tubercles, which are usually of a red hue. With their multiplication and increase on the face the countenance becomes greatly disfigured. They are often collected near the apertures of the nostrils; or on the upper lip; or on the forehead, which is thrown into large folds; or they may commence on the lobes of the ears. The occurrence of a febrile paroxysm is noticed by some authors, during which the local symptoms are aggravated. With its disappearance, and it generally lasts about three days, the patient feels little uneasiness, and sometimes the blotches disappear. This condition, however, is only temporary, as sooner or later they return. After a time other complications arise, which involve one or more of the organs of sense. The tongue or the soft palate is covered with similar tubercles, which, as they

¹ The preliminary, or 'periodically eruptive stage,' is well described by Dr. Lieving, as also the 'macular,' which may be considered in most cases the forerunner of the tubercular period. In the first of these, he notices some slight constitutional disturbance, and with it the development of certain discoloured spots on the skin, especially the lobes of the ears, the face, or back of the hands. After an uncertain, but generally a short time, these symptoms disappear, but only to return in a more aggravated form. [See Lieving on 'Leprosy.']

ulcerate, produce a foetid discharge. As the tongue participates, all appreciation of taste is lost, deglutition is with difficulty performed, and the voice has a harsh sound, or is scarcely audible. If the disease spreads to the vocal chords, or the trachea, the patient dies from suffocation. When the nose is implicated, fragments of diseased bone are often intermingled with the pus. Sometimes ophthalmia is induced, which is generally the forerunner to further and destructive changes taking place in the eye.

A difference of opinion exists as to the influence of leprosy on the generative organs. Most modern authors reject the testimony of antiquity on this point, and regard as fabulous the *libido inexplicabilis* recorded by older writers. Dr. Webster confirms the judgment of the latter, relying on the statement of Dr. Alveiro, who for many years filled the post of Superintendent of the Leper Hospital. Whatever may be the effect at an early stage, there is reason to believe, that with the progress of the disease atrophy of the testes is far from being an infrequent result.

As to the causes of leprosy little is known that can be urged with certainty. In the fertile districts around Granada, which teem with an agricultural population, provided with the ordinary requirements of life, the complaint is rare; indeed it is mostly limited to the sea coast. The same may be said of its appearance in France, where it is chiefly seen in the southern provinces. It is uninfluenced by occupation. Although no age is quite exempt, it is very infrequent as a primary affection under the age of seven years, nor does it often occur after the middle period of life. However free from it the pure English race may be in

Causes.

India, it will attack those of mixed descent in that country, and in the West Indies. I am credibly informed that it is not uncommon in the white population, who have long resided in the latter colony. In India it is chiefly confined to the poorer classes of the community, but the rich do not always escape. A diet consisting mostly of fish is supposed to be favourable to its development; the disease is nevertheless frequently met with inland, as in the Deccan and the North-West Provinces.

Hereditary
transmission.

With respect to hereditary transmission, there is no doubt that elephantiasis is sometimes received in this way, more often than the subjects of it are able or willing to admit. Leaving their homes at an early age, many of the natives are but imperfectly acquainted with the history of their own families, and other obvious reasons forbid any positive inquiry. As in other hereditary complaints, elephantiasis will occasionally pass over one generation to reappear in the next. It is never contagious. It is not known to extend to those whose duty it is to wait on the sick, or who are otherwise brought into personal contact with them. A leper may continue to live with his family for years, without at all communicating the disease to any of them; nor is he considered an outcast so long as he can toil for his bread, or has the means of supporting himself. It is when his resources at length fail, and he is obliged to beg in the bazaars, maimed and mutilated, that he becomes an outcast in reality, and presents a picture of misery, to which it would be difficult to furnish a precise parallel.

Morbid
anatomy of
leprosy.

Much of the obscurity that long enveloped the morbid anatomy of leprosy has been dispelled by the

valuable investigations of Dr. Carter,¹ who, as Surgeon to and Curator of the Museum of the Jamsetjee Jeejeebhoy Hospital, had ample opportunities of pursuing his inquiries. The conclusions he has arrived at, and which are published at full length, throw an entirely new light on this important part. It is in the altered condition of the nerves that we must really look for the seat of mischief. To the eye the affected nerve is considerably enlarged, and changed in colour to a reddish grey. On section, its funiculi are remarkably firm, but the neurilemma is unaltered. Microscopical examination shows the nerve tubules at the seat of the enlargement to be more or less wasted and atrophied, and accompanied by fatty degeneration. The places at which these characters are seen vary with the nature of the nerve. Another result of the same disease may be mentioned in reference to the bones, as the digits, which after a time undergo remarkable changes, due to interstitial absorption and necrosis. The fingers and toes are sometimes reduced to so many stumps, and in every case the last phalanx is the first to suffer. The bones themselves become likewise lighter and thinner.

Little can be done in the way of treatment. In an early stage, before the tubercles have ulcerated, the complaint is in some cases arrested for a time by the internal administration of mercury, given in a decoction of bark, or some other kind of tonic. The prognosis, however, in any case, is very unfavourable. Treatment.

Elephantiasis Arabum, sometimes styled Cochin, or Barbadoes leg, is that species of elephantiasis which has its seat in the extremities or the genital organs. Unlike Elephantiasis Arabum.

¹ *Transactions of the Medical and Physical Society of Bombay*, vol. viii., new series, p. 1.

elephantiasis Græcorum, it has never been a conspicuous disease in Europe. Although its derivation would seem to imply an Arab origin, the complaint is less frequent at the present day in Arabia than in certain parts of India, as the lower provinces of Bengal, and particularly along the coast of Malabar.

Locality.

Elephantiasis does not affect the extremities in the same degree. The lower limb is generally selected, the swelling commencing at the toes, or some other part of the foot, or the ankles. Extending upwards from this point it is arrested by the annular ligament, which for a time checks its further advance. The increase of the leg nevertheless proceeds, and in many cases stops short at the knee. The swollen limb is hard and brawny to the touch and little capable of impression: it is often covered with thick cuticular exfoliations, resembling ichthyosis, and which decrease in number and size from below upwards. In this state it may remain for years, causing little pain, and inconvenient only from its bulk.

The further progress of the complaint is frequently proportioned to the fatigue that the patient has to encounter. As long as the limb is allowed to remain quiet and horizontal in position the increase is inconsiderable, but continued exertion, as standing, aggravates the local symptoms, and the pain, at first intermittent, becomes constant and unceasing. The limb is greatly enlarged, and also the superficial veins. It is hard, and of a reddish tinge. Should the disease continue to advance, the pain is increased and ulceration commences at the toes, which are successively destroyed, or large ulcers form on the other parts of the foot. Unhealthy granulations occur on the toes, thus reduced to stumps, and show little tendency to cicatrize. In some

cases, when the thigh becomes involved, the varicose veins burst with marked relief for a time to the patient. The pathological changes are not always the same; sometimes, and perhaps this applies to the majority, the skin only is affected; it is simply hypertrophied. In other cases the greater part of the enlargement is due to an increase of the subcutaneous tissue, an example of which came under my observation. A woman beyond middle age, and imbecile, was admitted into St. George's Hospital, under Mr. Pollock, with elephantiasis Arabum of both legs, but most severe in the right. The limb was amputated at the knee joint, and the following notes I made immediately after its removal:—

The greatest width is at the instep, which measures 15 inches in circumference. The sole of the foot is scarcely changed, neither is the calf of the leg at its upper part, as it approaches the knee. The skin over the metatarsus is ulcerated to the depth of the subcutaneous tissue, and shows a finely granular and almost smooth surface; in either direction, in extent it equals $3\frac{1}{2}$ inches. In like manner destroyed is the skin of the first phalanx each of the great and fourth toes, the fifth is intact, but the second and third have entirely disappeared, only two short projections remaining, which are partially covered with granulation; the posterior margin of the ulcer is thick, tuberculated, and slightly undermined. On the inner side and front of the leg, at a distance of two inches above the internal malleolus, is another ulcer of similar size to the preceding, and bounded also by a thick and hardened border. The whole skin, from the toes upwards to the calf, is greatly hypertrophied, and unyielding to the touch. Developed on the front and back of the limb are some round tubercles, arising from the cutis itself; while more thickly grouped are masses of cuticle, which are easily separable, and on detachment leave a whitish surface exposed. The tubercles are few in number and not much larger than a pea; they are not so readily removed, and any attempt to dislodge them is attended by an oozing of blood. On cutting through the skin by a longitudinal incision from the upper part of the leg to the sole, it is hypertrophied to about twice its normal thickness, but the enlargement itself is chiefly produced by a great mass of subcutaneous tissue.

So prevalent is elephantiasis Arabum in British Cochin, that Mr. Day,¹ who for some time filled the office of Civil Surgeon there, records his inquiries thus:—

In 24 Indo-European families, 1 in 18 $\frac{2}{3}$ affected.

In 71 Native Christian „ 1 in 17 $\frac{1}{11}$ „

According to Mr. Waring,² the Jews (white and black) in the same locality exhibit a higher proportion, being in the ratio of 1 to 14 $\frac{1}{2}$ nearly. Besides these classes, elephantiasis attacks, and that indiscriminately, other of the native races of India, as the Mussulman and Hindoo.

In 100 cases Mr. Day reports as follows:—

	Males.	Females.	Total.
Left forearm	3	0	3
Right lower extremity	17	10	27
Left „	11	13	24
Both extremities	18	13	31
Both lower and upper extremities . .	4	0	4
„ right upper extremity .	1	0	1
„ left „ .	2	0	2
Both lower extremities and scrotum .	1	0	1
Left extremity „ .	1	0	1
Right „ „ .	2	0	2
Scrotum	3	0	3
Mammæ	0	1	1
	<hr/> 63	<hr/> 37	<hr/> 100

From this table it appears that no less than 93 cases from 100 are those of elephantiasis affecting the lower extremity. A larger percentage is quoted by Mr. Waring; thus, in a collection which he made of 945 cases, 307, or 32·49 per cent., belonged to the lower extremity; 287, or 30·57 per cent., to the upper extremity; and 344, or 36·40, to both lower extremities.

¹ *Madras Quarterly Journal of Medical Science*, 1860, p. 37.

² *Waring on Elephantiasis, Indian Annals*.

Under the age of 10 years elephantiasis Arabum is infrequent. From the period of puberty to the age of 25 or 30 years it is generally observed. Owing to the prejudices of caste, it is difficult in India to determine anything like an exact ratio of its occurrence between the two sexes. There is little doubt that it is more common in the male than in the female, and probably the proportion of 2:1 would represent the nearest approximation. It is not a little remarkable that while in Madras elephantiasis so much affects the lower extremity, in Calcutta it is the genital organs which are usually attacked. Sometimes the complaint undergoes a kind of metastasis, and leaves the leg altogether, only to show itself in the scrotum or other parts.

Age of its
occurrence.

Although sudden in its attack, elephantiasis is attended by constitutional disturbance, which in some cases is severe. The patient shivers, or is cold, afterwards becomes hot, and finally is bathed in perspiration. This febrile state, which may continue for two or three days, is invariably followed by an increase in the local symptoms, with pain or tenderness to the touch, along the course of the lymphatics of the affected part.

Elephantiasis of the genitals occurs in the penis or scrotum, or both. When originating in the former the part becomes hot, swollen, and tender. The pain is not, however, limited to the scrotum, but is felt along the inner side of the thigh and at the groin. The form of the tumour is conical, having its apex above and base below. As the constitutional symptoms which usher in the complaint subside, the swelling decreases to a certain point; and with the recurrence of another attack similar symptoms return, and

a corresponding accession is given to the size of the tumour, which may at length reach to the knees. Unless the swelling be great it usually preserves its form, but the penis is concealed in its large folds. Sometimes the raphe deviates from the middle line, or cracks are seen, from the skin being suddenly and tightly stretched. Abscesses occasionally arise in different parts of the scrotum.

It sometimes happens that during the febrile paroxysm a clear discharge exudes from the skin of the scrotum. This is always a favourable sign, and seems to be an effort of Nature to throw off the disease.

Venereal
variety.

The *venereal* variety, according to Dr. Allan Webb,¹ mostly originates in the prepuce; or, in the female, in the nymphæ or clitoris. In the former it may attain several inches in length as well as in diameter; and, as Dr. Webb remarks, in this species the scrotum, instead of offering a smooth or plain surface, is tuberculated. In the female the labia are often more or less displaced on account of hypertrophy of the nymphæ, one or both of which may be enlarged. Warts are often present, which give rise to a foul secretion. In either sex the febrile attack which so often accompanies elephantiasis is altogether wanting. In this description, says the above author, speaking of the distorted condition of the parts, 'I have never seen such monstrosity in any instance where it was not reasonable to believe syphilis was the point of departure.'

Elephantiasis is frequently connected with hydrocele; and in a case that Professor Ballingall² operated

¹ Dr. Allan Webb on *Elephantiasis*.

² 'On the Operation for *Elephantiasis scroti*, with Cases and Re-

on he found on removing the tumour that he had inadvertently opened a hernial sac. The swelling in this instance weighed 40 lbs., and although the after symptoms were at first severe, the patient perfectly recovered. Sometimes mortification happens, or the skin with the subcutaneous tissue sloughs, exposing the testes. Dr. Webb attributes the more immediate causes of this complaint to bathing in cold water when the body is heated, or to sleeping on a damp ground, or to contusions. Elephantiasis of the genitals, like the same disease occurring in the lower extremities, is without doubt largely influenced by locality.

As to the nature of elephantiasis, opinion widely differs. Many of those who, from their position in India, have had extensive opportunities of witnessing this disease, pronounce in favour of its malarious origin, and of its close connexion existing between it and intermittent fever. In support of this theory Mr. Waring, whose experience is certainly considerable, adduces 226 cases of elephantiasis Arabum, of which no less than 224 had suffered from intermittent fever. There are, I think, strong objections to this view. In the first place, it may be fairly questioned whether a febrile paroxysm, which happens but once in three, four, or six months, is at all identical with intermittent fever properly so called. In my own experience of the latter malady on the banks of the Indus, where it yearly prostrated a large percentage of our troops, I never observed the least tendency to elephantiasis among them, nor yet in the resident population. Again, the febrile paroxysm differs in the following marks,' *Transactions of the Bombay Medical and Physical Society*, vol. viii., p. 232, by Assistant-Surgeon G. Ballingall.

Nature of
elephan-
tiasis.

particulars from fever of an intermittent type :—head-ache, approaching to delirium, is the rule in elephantiasis, the exception in intermittent fever, and there is not that enlargement of the spleen or liver which is seldom wanting to the latter in its confirmed stage. The pulse in intermittent fever is quickened during the hot stage ; this is not the case in elephantiasis, nor do the remedies on which we rely for a cure of the one produce a sensible effect on the other.

Treatment. In an early stage, and when situated in the lower extremities, an attempt should be made to reduce the size of the limb by even pressure. For this purpose cotton bandages, or better still a flannel roller, should be applied from the toes and carried beyond the line of the swelling. Ointment containing iodine, or iodine friction will be also of assistance. In some cases the biniodide of mercury, in the proportion of one grain to four drachms of cerate, rubbed into the part has been productive of benefit, and is recommended by Mr. Day. The first effect of its application, he says, is to occasion some irritative fever, and even an increase in the size of the limb, with more or less pain ; but as the latter subsides the swelling diminishes. Combined with this treatment absolute rest is essential. To improve the general health, bark may be given, but no remedy possesses a specific action on the disease. I have known it arrested by the above treatment, and in one case it seemed to lessen from the exhibition of small doses of mercury. How far any change of climate might prove of service in this country I cannot say, but a removal to a distant station in India, unless the complaint be far advanced, is generally followed by a remission of the local symptoms. The swelling may

even disappear, but a relapse is almost sure to arise on the patient's return to his former abode. If this resource prove unavailing, or the complaint occur in a cold climate, the only alternative is amputation at or below the knee. The operation may be safely undertaken in so far as the disease is not likely to recur, and the patient's health warrants such a procedure. In those instances where the thigh is likewise invaded, delegation of the femoral artery offers the best chance of success. I do not remember by whom it was originally proposed, but in one case it was performed by Mr. Butcher, of Dublin. The patient recovered without a single bad symptom, and she was finally enabled to follow her occupation, which was that of a laundress. The difficulty in tying the artery in such a case is greatly increased by its unusual size, as well as by the risk of wounding, on account of their engorgement, the superficial or the femoral veins.

In elephantiasis of the genitals the tumour should be removed. In the native hospitals at Calcutta and Bombay, these growths have been successfully amputated when they have weighed 100 lbs. and upwards. In one case that came under the care of Professor Ballingall, at the Jamsetjee Jeejeebhoy Hospital, July 20, 1862, he commenced the operation by transfixing the neck of the tumour in the middle line, the knife emerging at the perineum. A strong double ligature was then passed through the opening and brought up round each side. After tightening the ligatures by tourniquets, the whole mass beyond the testicles was rapidly removed by a double-flap incision. The tumour weighed, after removal, $106\frac{1}{2}$ lbs. The after-shock was very great, in consequence of reaction not being

properly established for some days, and in consequence of a heavy loss of blood the following day. The after-recovery was, however, uninterrupted, and on the 4th of September the patient was discharged, cured.¹

¹ 'On the Operation for Elephantiasis scroti, with Cases and Remarks,' *Transactions of the Bombay Medical and Physical Society*, vol. viii., p. 233, by Assistant-Surgeon G. Ballingall.

CHAPTER XXI.

MORBID GROWTHS OF THE SKIN.

WARTS are generally regarded as growths due to Warts. hypertrophy of the papillæ of the skin, and covered by epidermis, which is subject to great variation in thickness. This definition applies to only such as are small, and represented by a single or a group of filaments, confined within a small space. In a more advanced stage, and occupying a more extensive surface, they consist of fibrous or fibro-cellular tissue. Very vascular, they bleed readily when cut. Situated on an exposed surface, they are usually dark coloured and dry, but in other parts they are soft, and often attended by a thin secretion, which, by its contact, seems to possess the power, in certain cases, of causing other warts to appear. The blood from a wart is also popularly deemed to be a common source of contagion, but actual experiment negatives this idea, or at least very rarely verifies it. Warts are objects rather of disfigurement than of pain; and are neither connected with any peculiarity of temperament, nor determined by the state of the general health. Uncertain in their origin, they may continue for years or subside spontaneously.

They are most frequent in the young of both sexes, but unless congenital, are seldom seen in

infancy or advanced life. Often abundant on the hands, they may nevertheless occur in any part. On the scalp, they are, as a rule, remarkable for their tenuity.

Venereal
warts.

Warts are occasionally consequent on syphilis, or what is more common, especially in the female, they are attendant upon gonorrhœa or any foul secretion, that is apt to collect about the parts of generation. They are seen on the external organs or on the mucous membrane, any portion of which is liable to be attacked. Sometimes they are confined to the verge of the anus, which may be thus completely enveloped by them. Venereal warts in the female occur for the most part in one of two forms, either as a single growth, when they are frequently of large size and more or less crescentic in shape, attached to the surface by a small base, and showing everywhere a number of excrescences resting on pedicles; or the root from which they are derived is of considerable extent, white on section, and fibro-cellular in structure. Every portion of its periphery is thickly studded with warts, which vary in size from a pin's head to a pea. Sometimes, the whole track of skin from the mons veneris to the anus is covered with these growths. When seated about the genitals, warts are more than usually contagious. An offensive secretion mostly attends them; and if of large size, they are freely supplied with blood. In the male, venereal warts are often seen on the glans penis, under cover of the prepuce; favoured by the secretion which is not removed, and the moist mucous surface, they sometimes grow rapidly in this locality. When congenital phymosis exists, they have been known to perforate the prepuce and appear externally: in such a

case, the growth becomes often exuberant. A crop of very minute warts will sometimes encircle the free margin of the prepuce.

Warty tumours differ from ordinary warts in the imperfect character of the excrescences developed on the surface, giving to it a closer texture or sometimes even a convoluted appearance. Although they may attain a diameter of five or more inches, these tumours are not much raised above the skin. If cut into they present a firm and white appearance. In some cases, their attachment to the skin is very broad, nearly as extensive as the tumour itself; in others, the growth resembles a mushroom, being connected by a pedicle, which it overlaps at its circumference. They may be found on the loins, head, scalp, or other parts.

An hypertrophied condition of the skin will sometimes produce a singular group of warts. These may be either so clustered together as to constitute a distinct tumour, connected by a narrow base, or they may be evolved from the general surface of this portion of the integument. The individual nodules are of larger size than those of any other variety, being equal to that of a hazel nut, or even exceeding it. They are smooth on their exposed surface, and their sides are flattened by mutual pressure. Similar warty excrescences will also occasionally be found on the female generative organs, which have become the seat of hypertrophy, as the labia, clitoris, or nymphæ. The latter may, either of them, acquire the size of an orange, and be covered with nodules. On section, such a mass is generally distinguished by its firm, close, and fibrous appearance.

There is a variety of warts, chiefly noticed by Mr. Cæsar Hawkins, which spring from cicatrices.¹ This, in its early stage, is indicated by a tumour, having all the external characters of a wart, and which is soon succeeded by others of a like nature in its immediate vicinity. A coalescence of several of these growths takes place, producing a large and irregular mass, readily allowing the insertion of a probe in different parts of its texture, and disposed on the least provocation to bleed. In the cases that Mr. Hawkins relates, seven in number, the surface was generally ulcerated; and in one instance an ulcer formed almost from the beginning, and subsequently attained a diameter of no less than eight inches.

There is a wart (Hunterian, 2,280) in the College museum, from the surface of which a number of long, slender, and pointed processes radiate in all directions. It is invested with a layer of dark-coloured cuticle, but no history is appended.

Warty
growths.

By *warty growths* is meant a peculiar condition which is sometimes presented by the skin when the latter is converted into an irregular mass, consisting of a multitude of closely-set processes, like so much fringe and scarcely raised above the level of the skin. Not unfrequently a patch of this kind involves several inches in extent, and is intersected by numerous deep furrows. The change is always less marked at the circumference, where the skin, although partaking of the same nature as the rest of the growth, is not elevated. In some instances the processes, formed as they are of fibrous tissue, approach the character of true warts, and are nodulated

¹ *Transactions of Medico-Chirurgical Society*, vol. xix.

at their base. These cases are mostly congenital, and sometimes they are stated to have succeeded a nævus.

Warty tubercles are known by being flat and smooth on the surface. They arise from a large base, and are of a pale red or maroon colour. Generally seated on the lower extremities, they are disposed to unite and form an irregular growth. Sometimes they are covered with a thick mealy desquamation, when they lose somewhat of their tubercular character, and become circular and less elevated. They do not appear to be venereal. A peculiar warty tubercle, to which the name of *verruca negrocanica* has been given, sometimes occurs on the hands of those who are in the habit of making *post mortem* examinations or of dissecting. It is usually seated near the base of the fore or middle fingers, or the knuckles of the others, where one or more circular tubercles are seen, irregular on their surface, and partially covered with small scales. Sometimes both hands are similarly attacked.

Warty
tubercles.

With respect to the degeneration of warts, there is no doubt that, like many other tumours, they sometimes assume a malignant nature, but they are not so in the same sense that is ordinarily implied by cancer. They do not affect the internal organs, and most rarely the neighbouring glands; nor give rise to that cachexia, which is expressed by malignancy. Their tendency is to produce death by irritation, or loss of blood. Although a wart may continue harmless for years, a new action will sometimes be set up in it, as evidenced by an increase in its size, pain, ulceration, and hæmorrhage; and with the accession of these symptoms, it may be said to degenerate. Instances of this change in the condition

Degenera-
tion.

of a wart, and especially of that developed on a cicatrix, are not unfrequent in hospital practice, and generally the consequence of some local irritation. I know of but one recorded case of a wart that can be said to have undergone degeneration of any other kind; it occurred in a female patient of the late Mr. Bransby Cooper, from whom he removed a large mass of the labium, which was found on examination to contain numerous compound cysts, filled with fluid of a mucous character. The preparation, which is still to be seen in Guy's museum, shows a warty swelling, five to six inches in diameter, almost spherical in shape, very irregular on its surface, and of the usual dark colour externally. In its interior are several small cysts. The tumour is pedunculated, and considerable hæmorrhage is said to have followed its removal.¹

Diagnosis.

Nothing may seem at first sight more easy to recognise than a wart, and in the majority of cases it presents no difficulty. But this is not always so; and a 'proliferous' cyst which has proceeded to ulceration may, by the protrusion of its contents, resemble very closely a wart. In the pathological museum of St. Thomas's Hospital is a preparation (47, section K), showing a proliferous cyst on the back of the hand, which has ulcerated, and might well be mistaken for a large wart. Its history states, that it had existed for 30 years, having commenced in a female at the age of 17. On her admission, it presented a bleeding warty surface, and was attended by a considerable discharge. Epithelioma sometimes greatly resembles a simple wart; and if the former be situated on a plane surface, it is some-

¹ Preparation 2,289¹⁶.

times impossible to distinguish between them. Epithelioma may appear as a group of closely set cauliflower warts, which although prominent enough in the centre are less so at the circumference. When a section is made, the growth is found to consist at its base of white fibro-cellular tissue, covered with these slender warts, which are too densely packed to permit the passage of a probe. They are vertical in their arrangement, and from a third to half an inch in length. An epithelial cancer may simulate a wart, which is particularly the case when the prepuce is affected.

If found singly and of small size, the wart may be cut off with a pair of scissors, and the surface afterwards freely rubbed with nitrate of silver; or, what is better, it may be touched from time to time, at intervals of a few days, with the acid nitrate of mercury, until it finally disappears. The latter application is less painful than might be expected, and is very serviceable in that kind of wart sometimes seen on the hairy scalp, or on the side of the finger, where it forms a little tuft, more than usually irritable. If the patient object to the severity of the treatment, or if the wart have a large base, the pure liquor. plumbi may be used instead. Constantly applied, this will, in most instances, cause the wart to shrivel and dry up. In larger warts, such as are attached to the generative organs of the female, and which notwithstanding their size, are generally furnished with a narrow base, there is no effectual remedy but excision: the chloride of zinc should be applied afterwards to prevent their regeneration. As the operation is always a painful one, the patient should, during its continuance, be placed under the influence of chloro-

Treatment.

form. The warts, it must be remembered, have large vessels entering their base, which ramify in their interior. When excised, the bleeding from them is copious, and sometimes not easily restrained. It is therefore recommended, in case of need, to be provided with the actual cautery; or to enclose with a ligature the base of the wart, before it is removed. Should the disease recur, it should be treated as early as possible. In cases where warts form beneath the prepuce, whether the consequence of gonorrhœa or balanitis, and phymosis results, the prepuce must be slit up. The wart now exposed may be touched with nitric acid; or an escharotic as savine powder may be applied; or this failing the wart should be excised.

Hypertrophy of the skin.

Hypertrophy of the skin.—Simple hypertrophy is a rare complaint. It is sometimes seen to affect the scrotum. *Cutaneous tumours of the skin* are also uncommon, but they nevertheless may occur. An admirable specimen of this variety is one in the museum of St. Bartholomew's Hospital, which shows a growth nearly hemispherical in shape, and about three inches in diameter. It had existed for two years, and was never in the least painful. It was removed from the scapular region of a negro 28 years old, and exhibits on section a number of hair follicles, with short curly hairs growing from them.

Cutaneous tumours.

The most usual seat of cutaneous tumours is the extremity of the nose. Sometimes four or five of them will be seen at this part, coarsely lobulated, and deeply fissured; or the end of the nose may be surrounded by a large thick ring of integument. *Pedunculated cutaneous tumours.*—The character of these is sufficiently expressed by their name. The base is for the

most part circular, and in structure they are chiefly composed of white fibrous mixed with areolar tissue. Sometimes the surface is perfectly smooth, or in other cases the growth is more or less lobulated. These growths are not uncommon about the abdomen or inside of the thighs. They may occupy many years in their growth, and are unattended by pain. Sometimes ulceration takes place at the most depending part, and on the surface may be seen a group of large warts from hypertrophied papillæ.

Fibrous tumours sometimes affect the skin. They are then generally seen in numbers, and more or less scattered over the greater part of the trunk and extremities. In size they vary from a small pea to a good-sized marble, and are sessile rather than pedunculated; the skin over them is smooth, and to all appearance healthy. On section, they present the same uniform colour. On the 2nd of November, 1860, a patient was admitted into St. Mary's Hospital with a multitude of tumours of the above size studding the entire surface of his body, and which were associated with a number of subperitoneal growths. I need not remark on the latter; the cutaneous growths exactly resemble those of fibrous structure, and are precisely similar to a preparation of fibrous tumours of the skin in Guy's, from Mr. Langstaff's museum.¹

Fibrous
tumours.

Sebaceous tumours.—These are generally derived from the sebaceous follicles of the skin, which have become enlarged. In the ordinary form, which is most frequent on the scalp, a smooth swelling is seen, elastic, of the same colour as the skin, with the hair growing

Sebaceous
tumours.

¹ Preparation 1,635¹⁰.

over it, moveable under the finger, and unless exposed to continued pressure, unproductive of pain. On dissection it will be found composed of a cyst, which has all the essential elements of the skin, and filled with a soft, cheesy, and sebaceous substance. If we inquire into the history, we are usually informed that the growth in question is of long duration. It may have exhibited little change for years, or else a marked increase within a recent period; when, probably on this account, the patient applies for relief. Although it may occur as a single growth, it is more frequently observed in a multiple form, whether on the scalp or other parts. In some instances it is congenital, and occasionally is observed to be hereditary.

Besides a sebaceous product, the contents of the cyst frequently contain an admixture of cretaceous or earthy particles, which are not without their effect upon the walls of the cyst, causing it to assume an increase in thickness, and its internal surface to become nodulated or irregular; or in addition to the original matter, we detect a number of small semi-transparent horny deposits, which are in reality epithelial. Again, instead of showing a structure laminated, or it may be perfectly uniform, the cavity of the cyst in other cases is wholly or in part filled with a material possessing the constituents of cuticle, recognised by its white colour, and evidently derived from the lining membrane of the cyst. A nearer approach to the skin itself may happen to one of these cysts, in the production of a quantity of hair from its inner surface, while, as in similar cutaneous cysts of the ovaries, teeth even may be found. Lastly, the cyst, and especially those of large size, may contain liquid of almost any hue, from a light to a dark

brown, mingled with cholesterine or fat; and pellets of the latter as large as marbles may be immersed in the secretion.

The cyst may vary in size, shape, and structure. Sometimes not larger than a millet seed or a pea it is mostly small and membranous, as when occurring in the eyelid, immediately beneath the mucous membrane of the conjunctiva. If attached to the root of the nose or the periosteum of the orbit, it is commonly congenital, and these are the cysts in which we may expect to find a quantity of hair. On the scalp, a sebaceous tumour may attain a considerable magnitude; one, as large as a cocoa-nut, was removed by Sir Astley Cooper, and is in the museum of St. Thomas's Hospital.¹ Sometimes the cyst is quite spherical, as when surrounded by loose connective tissue, but it is generally otherwise if occupying any portion of the scalp, and flattened at its attached surface. It is not rare for a sebaceous tumour to be pedunculated, and a cyst may likewise be found in the pedicle, quite distinct from the larger growth.

Character
of the cyst.

The walls of the cyst vary with whatever element of its tissue preponderates. Thus in one case, it may be thin and membranous, or its interior may be partially divided into distinct cavities formed by membranous septa; in another, it is composed of epithelial cells and sebaceous matter; or it may have a capsule of fibrous structure, lined by a thick wall of compressed epithelial cells; and instances are not wanting of the cyst wall becoming altogether fibrous, or containing osseous deposits.

¹ Preparation 34, Section K.

Ulceration
of cyst.

Sometimes, and from no apparent cause, the skin covering a sebaceous tumour shows a disposition to ulcerate. It becomes thin, purple, and soft; a large portion of it may be destroyed by sloughing, and its contents escape. The exposed surface of a sebaceous cyst does not, however, granulate. The ulcer spreads at its circumference, and involves the adjoining skin; a 'fungating' mass is then seen, which is sometimes mistaken for cancer, or a vascular growth attached to the interior of the cyst may protrude by ulceration through the skin, and closely resemble a warty tumour.

Diagnosis.

The comparative facility with which sebaceous tumours can be frequently distinguished, must not be taken as constituting an invariable rule. As long as the contents remain sebaceous, and the cyst of moderate thickness, little difficulty will arise; but when the latter is of fibrous or cartilaginous hardness, the tumour loses its original character and assumes another condition; or it may resemble a 'blood' tumour, whose walls are lined with a thick coating of laminated fibrin, and in which a considerable quantity of cholesterine has been occasionally detected. Sometimes, but seldom, the aperture of the duct is visible, or even a double opening may be seen. When of large size, and containing fluid, fluctuation is generally felt; or the cyst may ulcerate at one part, discharge a portion of its contents, and afterwards refill. Again, the cyst may be ruptured by a blow, and the contents escape into the cellular tissue. This adds to the difficulty of diagnosis, as the tumour often increases rapidly. An ulcerated follicle is very apt to be confounded with cancer, from which it differs in its mode of origin, viz., that it is unattended by pain; secondly, that there is no enlarge-

ment of the neighbouring glands, and the patient's health is unaffected; and thirdly, that the microscopical characters furnish epithelial cells or cholesterine, but none of those which are recognised as pertaining to cancer.

The cyst must be destroyed, *i.e.*, removed by excision, Treatment.
or sufficient inflammation set up in it, as to render powerless its capacity for regeneration. The skin being put on the stretch, the surgeon with a single incision divides in its whole length the integument over the cyst without wounding the latter. With a little careful dissection, it can then be generally removed entire. If the knife has, however, pierced the cyst, a partial escape of its contents immediately follows. With slight pressure the cyst may be now quite emptied, and the next point to attend to, is its extraction. This often requires care from the nature of the surrounding attachment; and in many cases, a small hook inserted into the cyst near the line of incision will facilitate the operation. When the tumour has ulcerated it will not be necessary, as in cancer, to include in its removal any considerable portion of the surrounding skin. In some instances, instead of excising the cyst, the application of nitrate of silver is employed to excite suppuration; but this is a tedious proceeding, and one scarcely less painful. For the same reason, the attempted removal of the growth in any stage by caustics, as nitric acid or chloride of zinc, is far less preferable than excision, unless the patient be advanced in life and unable to bear the shock. Simple as the operation may be, it is not devoid of danger in its consequences. In a constitution damaged by excess or enfeebled by age, an attack of erysipelas spreading from the head and face to the pharynx,

may prove rapidly fatal. But there is occasionally another contingency, when the tumour involves the skull; although usually it is restricted to the upper part of the frontal bone, or the orbit. This contingency occurs, when the pressure of the growth has led to absorption of the bone, or even to its perforation. Early age is no safeguard against such an occurrence, and the cyst may be found no larger than a pea. At this time of life, and acting on the worst supposition, the probability is in favour of the perforation being minute, and with care no untoward result need be apprehended. At a later period, and when the tumour is of greater size, the danger is proportionately increased.

There is one more class of cases in which, from the disease being generally overlooked, death is likely to ensue. Mr. Toynbee has placed on record several instances of sebaceous tumours, situated in the external auditory meatus.¹ These, in their progress, are very prone to induce absorption of the petrous part of the temporal bone; and are all the more dangerous from the frequent absence of pain, even when this stage is reached. Among the usual symptoms may be noted deafness and otorrhœa, and the discharge is sometimes offensive; an inspection alone can determine the actual existence of the tumour.

Keloid
tumours.

Keloid tumours.—The first to recognise keloid growths as a separate class of tumours was Alibert, who describes them of a reddish colour, sometimes streaked with white lines, not pedunculated, but rather embedded in the substance of the skin. To the touch they are elastic, like fibro-cartilage, and moreover they are not malignant.

¹ *Medico-Chirurgical Transactions*, vol. xlv., p. 51.

Their origin, I believe, is derived from the cutis itself, and not from the subcutaneous tissue, which is seldom implicated. In structure they partake, and that largely, of the fibrous element, and are highly vascular; this is shown by the number of capillaries ramifying on their surface. The cuticle is sometimes wrinkled, but more generally remarkable for being soft and smooth. There is, in the College of Surgeons, a beautifully injected preparation, which was presented by the late Mr. Edward Stanley.¹ It is an ordinary keloid growth of the leg, resulting from a scald, and extending several inches in the form of a tumour, narrow and not much raised. Its uniformly red surface contrasts with that of the surrounding skin; and except where it has been removed by ulceration, the epidermis is intact.

Keloid tumours present great variety of appearance. Variety.
The growth may be confined to a single tumour, smooth, ovoid, and hemispherical; or several of these may be seen at short distances from one another, and in various stages of development; or, again, as in a case, which recently occurred to me, they may be so numerous, as to cover the greater portion of the trunk. Again, the part affected may be distinguished by irregular but not prominent projections, traversed by numerous bands, or sending out processes or claws in the direction of its growth.

In its early stage, the tumour is not usually painful, but its character in this respect is often much modified by the health or temperament of the patient. Thus, Growth.
should there be a tendency to hysteria in the female, or over sensitiveness or irritability in the male, more annoyance will be experienced from the presence of the

¹ Preparation 2,283 B.

growth than where no such disposition prevails; and this is what we might expect. In many instances no inconvenience is felt, unless the part has been much manipulated, when it itches, or is said to 'burn'; or unless it be constantly pressed upon, as for example when occurring on the scapula, in a line with the border of the dress, or where the braces are applied. Sometimes the patient complains of pain, which the least handling increases. At a later period, should ulceration take place, pain is always more or less felt, but it is not determined by the size or growth of the swelling.

Keloid tumours are not limited to any locality. Perhaps they may be said to be more common over the scapula, and next to this the sternum. Sometimes they show themselves on other parts of the trunk, or upper extremity, or face, and seldom on the lower limbs.

Proneness
to recur.

However obscure the real origin of these tumours, a singular predisposition to their production is declared in certain constitutions, whether in the development of new growths, or the recurrence of a similar swelling from the cicatrix of one that has been removed. Velpeau relates the case of a lady, from whose breast he excised a tumour of this kind, and who had undergone the operation on two occasions before she applied to him, and again it appeared for the fourth time.¹ It would be easy to multiply such instances as these. The same liability to return is often observed when, instead of excision, the mass has been destroyed by caustics, or removed by ligature; and so great is it in some cases,

¹ *Velpeau on Diseases of the Female Breast*, translated by W. Marsden, M.D., 1856, page 57.

that the apertures caused by the needles in closing the wound have shortly become, each the seat of a keloid tubercle. In one example, which Mr. Longmore some time ago brought before the notice of the Medico-Chirurgical Society,¹ the whole of the back, the greater part of the chest and the face, were studded by keloid excrescences; the only evidence of an exciting cause was afforded by a 'prickly heat,' to which the patient, a soldier, had been exposed while serving in India. The disease was aggravated by the use of the cross-belt, and scarcely, if at all, increased in the cold weather. This man had never suffered from small-pox or secondary syphilis, and I may add that he was doing duty in the Deccan, where prickly heat is far less severe than in the plains of Hindoostan. The effect of some injury to the skin is in most cases the immediate cause of a keloid tumour. Among soldiers, it not unfrequently follows flogging; in other cases, it succeeds gun-shot wounds, and particularly burns. The scars of small-pox or rupia, and even leech bites, have been known to become the deposit of keloid substances.

There is a species of keloid to which Addison has drawn attention, and which he describes as true keloid. How far it merits this distinctive title, I am not about to discuss; but that the term keloid tumour cannot appropriately apply is, I think, sufficiently evident to anyone, who examines the models from the originals of which the observations of Addison were derived. Commencing as a white spot, it sometimes spreads in a circular, but more commonly in a linear direction, and in many cases is attended by no elevation of the surface.

Keloid of
Addison.

¹ *Remarks on two Cases of Kelis*, by T. Longmore, vol. xlv., p. 105.

The skin appears infiltrated, or, to use his own words, 'hide-bound,' and this so far affects the subjacent fascia and muscles as to interfere greatly with their free motion. Generally the skin is of a yellowish colour, and the patch is more or less covered with scales.

Treatment. In the treatment of keloid tumours we should remember, that they are sometimes much affected in their growth by the state of the general health, and that they occasionally disappear. The influence of these conditions should not be overlooked or undervalued, as although the removal of the mass may be readily performed, the risk of its return is always considerable. We may endeavour to promote absorption by painting the part with tincture of iodine, diluted at first, and gradually used pure; or collodion may be employed with a similar object. In one instance related to me by Dr. Broadbent of extensive keloid growths, the latter disappeared or became much reduced from the internal use of iodide of potassium; and in a case of doubtful origin, it may be worth while to try the effect of this remedy. The contra indications to an operation are these:—1st, when the disease shows an inclination to become developed in other parts—in such a case, if excised, it is almost sure to recur; and 2nd, when it has already been so extensive, as to preclude any resort to the knife. In these no treatment that I am aware of, is of any avail. Rayer, indeed, recommends pressure, but this is more likely to increase than mitigate the evil that already exists.

Horns. The development of *horns* from the surface of the human body is one of those singular freaks of Nature, which she but seldom exhibits. Instances of them are met with in several of our museums, where they are

regarded rather as objects of curiosity than deserving any special remark; and historical notices of their occurrence are recorded by several writers; Rayer mentions 76 cases in which Villeneuve was consulted.¹ One of the most remarkable specimens is to be seen in St. Thomas's museum. It measures ten inches in length, and is curled like a ram's horn; it is laminated in texture, and of a yellowish colour. Other, but much smaller horns, are also to be found in the same museum; one was formerly attached to the scrotum, and another to the pubes.

Of the 76 cases just alluded to, 37 are said to have occurred to women, 36 to men, and 3 to infants. In 9 of these cases the horns were situated on the head; in 14 on the forehead; and in 12 on the thigh. In the others, they were seen five times on the nose; four on the chest, back, and ischium; three times on the temples, penis and glands; twice on the knee, ham, and foot; and once on the leg and hand.

Various
modes of
origin.

Horns originate in various ways. 1stly. They may proceed from the nails. In these cases, the great toe is generally selected, and the horn, identical in structure with the nails, sometimes bends downwards in such a manner as to press upon the skin of the opposite side. In colour it is of a dark or dirty yellow, and its surface plane rather than convoluted. These horns in most instances appear to result from the nails not having been pared, are slow of growth, and seen usually in old people. A case is related by Mr. Partridge of an out-growth of nails in a woman aged 84 years. The toes were perfectly healthy, but the nails of the second, third, and fourth varied from $1\frac{1}{2}$ in. to $2\frac{3}{8}$ in. in length, while

From the
nails.

¹ *Rayer on Diseases of the Skin*, page 987.

From sebaceous cysts.

the great one of the right foot measured 6 in. and the left 4 in.¹ 2ndly. They may originate from a sebaceous cyst, which, as is well known, may undergo various changes. The cyst enlarges, and its contents become inspissated. The latter are pushed forwards through the skin at successive intervals; and although soft when first formed, afterwards acquire a hard structure. As the cyst, if undisturbed, still continues to secrete, a proportionate length is given to the horn, and it is at first slightly moveable.

There are one or two points connected with the growth of these horns, that remain to be noticed. After attaining a certain size, they sometimes drop off from their own weight, or a slight blow will dislodge them. When this happens, or if they be simply cut off, they are pretty sure to sprout again. Not unfrequently they are multiple, as many as three or four or more being found on the same person. They are usually seen on the head. Such was the case which is described by Sir Astley Cooper as of cystic formation.² Speaking of this horn, it is stated to be the third in succession, and that it formed on the head of a gardener at Richmond. The first was cut off with a knife after it had existed three years; the second was broken accidentally; while the third continued to grow for seven years, until, from its excessive inconvenience and the annoyance it occasioned, Dr. Roots, under whose care the man was, removed it altogether by dissecting out the cyst with which it was connected. The horn I have carefully examined. It is convex throughout, showing numerous depressions. Becoming by degrees smaller towards its

¹ *Transactions of Pathological Society*, vol. viii.

² Preparation in St. Thomas's Museum, 50, Section K.

extremity, it is of the same colour on section as externally. Another horn, nearly as long, was removed by Mr. Cock, from the neck of a young woman, in 1860.¹ The patient was thirty years of age, and the growth had existed eleven years. Two smaller horns were also commencing, one close to it, the other near the eye. It is slightly fluted longitudinally, quite solid on section, but externally to the eighth of an inch it is of a whitish hue. 3rdly. They may proceed from papillæ. This I From papillæ. believe is of less frequent occurrence than either of the above modes of origin. The horn is more stunted than in the last variety; and, as might be expected, it is liberally supplied with blood, which is seldom the case in a horn of purely sebaceous structure. It is sometimes witnessed on the back of the hand, arm, or head; and generally affects the aged. In most cases it is found to have a well-marked elevated base, very similar to a wart, for which, in an early period of its growth, it is commonly mistaken. Seldom exceeding four or five inches in length, it tapers to a blunted end, and its surface can scarcely be said to offer any irregularity. If a thin section be examined with the microscope, its structure will be found to consist mostly of condensed epithelium, traversed by a number of apertures for the passage of the blood-vessels, which ramify through it. 4thly. Horns are sometimes entirely composed of From epidermis. thickened epidermis. Such appears to be the structure of a typical horn of this nature in St. Bartholomew's museum, which formerly grew from the thigh of a young woman. It consists of thin laminae, concentrically disposed like the leaves of a flower. (Series

¹ Preparation in Guy's Museum, 1652¹⁵.

From mu-
cous folli-
cles.

11, 42.) In size it is equal to half a walnut, and was removed together with a portion of subcutaneous fat. 5thly. Horns may arise from the mucous follicles of the lips. This can excite no surprise when the relation between these and the sebaceous glands of the skin is considered. Instances are related by surgical writers of horny growths about the lips becoming the seat, after their removal, of epithelial cancer.

CHAPTER XXII.

CONGENITAL SYPHILIS.

CONGENITAL SYPHILIS in infancy or early life.—

There are several modes by which syphilis may be conveyed to a child. As in the adult, it may be produced by actual contact with a chancre, or from an infected nurse to an infant at her breast; or, again, through the medium of vaccination. These and others of a like kind are, however, altogether exceptional in their origin; they should be considered rather as illustrations of acquired, in contradistinction to congenital or hereditary syphilis, and as such are rare in actual practice. On the other hand, the class with which we have most to do, is worthy of our attention from its very frequency, no less than for the consequences, with which it is often fraught. It affects the infant unborn, before the development of the fœtus is completed.

Symptoms.—In the greater number of cases, there Symptoms.
is first noticed on some portion of the genitals, or their vicinity, or else near the verge of the anus, a red patch of no definite shape or size, and scarcely, if at all, raised above the surrounding level. Smooth and dry, it varies much in colour, according to the degree of inflammation present, and in the worst examples assumes an almost crimson hue. The same cause regulates in a great measure its extent, and while in some instances the

above-named limits are not exceeded at any period of the eruption, in others the disease quickly travels along the back of the thighs even to the soles of the feet; spreading in an opposite direction, it appears above the umbilicus, and envelopes nearly the whole trunk with thin white scales, partially adhering to a reddened surface. Should the region of the genitals be severely attacked, as evidenced by the intensity of the discolouration, the child screams if the part be washed or even touched. As the complaint proceeds towards recovery, there is soon noticed, among other signs, a fading in the depth of colour, which now acquires a mottled character; or a number of red isolated dots are seen, separated from each other by more healthy integument; or a general gloss covers the affected patch. Whatever the phase of amendment, the natural condition of the skin is at length restored.

Again, instead of appearing on the privates, the eruption is sometimes first observed on the palms of the hands or the soles of the feet, and known by the deeper colour of the skin, and the shreds of epidermis which overlay it; or the entire foot is simply smooth and red, and preternaturally dry. A case lately came under my care, in which it was altogether confined to the toes. In these instances, it is not unusual for the nails to be shed, and such a result I have witnessed as early as the age of eight weeks. The nail towards its free edge is irregular, and its upper surface also uneven, the attachment to the matrix becomes gradually less firm, and at length the nail falls out. The growth which succeeds is seldom perfect at first, and it is not until some months have elapsed, when the effects

of constitutional syphilis have passed, that these structures regain their normal state.

Regarding the disease under the above type as *Psoriasis*, *psoriasis*, it may commence on the upper extremities or face, and its development in these localities will sometimes be the forerunner of a similar affection on the genitals. The forehead, cheeks, and nose are then occupied by thick and whitish crusts, or the scalp presents a like assemblage of scales, which, with the rest, are perfectly dry, and unaccompanied by any surrounding redness. Sometimes the complaint is less pronounced, and the cheeks are only rough, or it may be glazed; or we note, especially during convalescence, the remains of one or more fissures radiating from the angles of the lips, or a vertical one from the middle of the lower. In severe cases, the skin around the mouth is puckered or drawn into rucks converging to the lips, while in the intervals between the larger folds clefts may be seen, which are easily provoked to bleed. The surface so involved is hard to the touch, and the attendant irritation is extreme, at least if we may judge from the efforts of the child to scratch or tear the skin, which he will do unless prevented, and from his constantly rolling his head as if in pain. In addition to these signs, crusts of rupia are occasionally observed on the face, near the alæ of the nose or the outer canthus; these, as they decline, leave in their room a red stain, and, with advancing recovery, the former puckered condition gives place to a more healthy appearance, and fissures are no longer visible. Still, traces of this kind of disfigurement are slow to vanish entirely, and long after the child has regained its health, smooth white

grooves or lines remain, the sole but significant witness to bygone disease.

Eczema.

As a syphilitic affection, eczema is less common than psoriasis. Although it may happen to an infant soon after its birth, it is generally delayed some weeks later. In the course of a few days, there is secreted from the same red patch, which, equally as in psoriasis, is remarkable for its vividity, a clear and colourless fluid, similar to what ordinarily distinguishes eczema. The primary formation of this patch is, in my experience, invariable in early life as the precursor of syphilitic eczema affecting the genitals. In many instances it co-exists with other and manifold symptoms of a constitutional taint; it is situated on the scalp or ears, but, unlike ordinary eczema, this eruption affects only portions of the head, and resembles porrigo in the elevated character of its crusts. The discharge is often abundant and offensive, and when proceeding from behind the ears frequently tinged with blood; while on the external surface of these organs, the pustules are usually distinct, and surrounded with red areolæ.

Pompholyx.

In certain cases, the disease differs from either of the preceding, and its earliest appearance is denoted by blisters or bullæ, which contain a clear and watery fluid; the bullæ are seldom larger than a moderate-sized marble, and oftentimes no bigger than a pea. When they burst or are absorbed, a thin film of cuticle, as fine as gold-beaters' skin, may be noticed in their place. Sometimes the patches resulting from the débris of the vesicles exhibit a tortuous or annular arrangement, and although a large space may be thus occupied, intervals abound of healthy skin. The regions most likely to be affected are the genitals or thighs, and

these alone may be attacked. In others, the eruption occurs in a more general form, as in the following:—

J. W., aged six weeks, was brought to the hospital April 2, 1868. From the soles of the feet the epidermis was peeling off in flakes, exposing the red skin beneath; on the inner ankles was likewise noticed a collection of bullæ, distinct and flattened on their summits, and the remains of others were apparent on the dorsum reaching to the toes. A similar condition might be seen over the greater portion of the lower extremities, including the buttocks and genitals, showing the eruption in its various stages.

He snuffled, and the apertures of the nares were much clogged; the exposed mucous surface of the lips was fissured by small vertical cuts, which cracked and bled. He was quite well to the age of three weeks, when blisters formed in the mouth; two or three days later, the genitals were attacked, and the complaint continued to extend. There was no loss of flesh.

It is under one or other of these aspects, that congenital syphilis is commonly declared in early life, and the disease may be squamous, papular, eczematous, or distinguished by bullæ. The first is the most frequent, but it is on the face or scalp, that the true scaly element is chiefly retained. On the genitals, this condition gives place to the vivid patch already described, which is sometimes preceded by a gloss, and rarely by scales; over the trunk and extremities, a modified redness is generally met with, less bright than the preceding, and in part overlaid with large thin flakes of cuticle. The co-existence of eczema at this time of life with psoriasis is not unfrequent, particularly on the face, or the bends of the larger joints, as the joint of the elbow or the knee.

Another attendant on congenital syphilis are ulcers. These are mostly found on the mucous surface of the lips or inside the mouth. In the former locality they

oftentimes occupy the commissures, or the centre of the lip, and are moreover characterised by a tendency to spread superficially rather than in depth, as well as by a smooth greyish yellow appearance at the base; their margins also, though irregular, are not undermined. When occurring at the middle of the lower lip, eversion ensues to a greater or less degree, and as a result of contact, a small corresponding sore is usually seen at the tip of the tongue, or just below it. The same is witnessed on the labia pudendi, which are sometimes attacked. On the scrotum, they are occasionally very numerous, and range successively in diameter from a pea to a threepenny-piece. In this region, they are noticeable for their redness and slight secretion; they heal with rapidity, a somewhat dull or maroon colour denoting their situation, but this soon fades, and owing to the loose cellular tissue beneath, no lasting scar is retained.

Period of
accession.

No exact date can be assigned to the accession of the specific eruption, which is seldom actually evinced either at birth, or within the first week or ten days succeeding that event. However severe the symptoms may prove, the infant, as a rule, is born apparently in perfect health. Of seventy-three consecutive cases of infants, which have come under my care, wherein I have been careful to note the earliest indication of any symptom, which in the sequel left no doubt of its true nature, only four could be enumerated as occurring within the first twelve days from birth. At the age of a fortnight, the disease would seem to be more frequent, but from this period to the fourth week, no marked excess is shown in comparing one week with another. Beyond two months old, a great decrease is observed.

Congenital syphilis	at birth in	1 case from 73.
"	at 10 or 12 days in	4 cases "
"	" 11 or 14 "	13 " "
"	" 3 weeks in 10	" "
"	" 4 "	12 " "
"	" 5 "	6 " "
"	" 6 "	11 " "
"	" 8 "	8 " "
"	" 9 "	2 " "
"	" 3 months in 2	" "
"	" 4 "	1 " "
"	" 5 "	1 " "
"	" 7-8 "	1 " "
"	" 8-9 "	1 " "
		<hr/> 73

It might be supposed, that an early outbreak of syphilis, as its occurrence in the course of a few days after birth, would lead to a less hopeful issue, than when delayed to a month or later. Such an expectation is not, however, warranted by facts—at any rate, not to any appreciable extent. Nor does the result appear to be influenced by exposure of the foetus to a two-fold risk, as when the wife has become infected from her husband. The most unfavourable sign with which we are concerned is emaciation. By this I do not mean that ‘falling off,’ as it is termed by the mother, which often follows the first evolution of the complaint, when the child refuses its accustomed food, and the wasting is mainly confined to the locality of the eruption, and in particular to the lower limbs. The emaciation now referred to is continuous or progressive, and at the same time general. The skin has a dirty white hue, and hangs loosely from the muscles, which are soft and flabby: if pinched, it seems to have lost its elasticity, and is cold and harsh. Sometimes the face participates, and the countenance wears, even at this early

Prognosis.

age, an expression of distress, the eye-brows are knitted, and the child constantly cries; in others, the face alone escapes, but elsewhere the emaciation is great; add to this, that the appetite is often inordinate, and the child to the last literally craves for food. Although extreme emaciation must always be ranked among the worst signs of hereditary syphilis, it is difficult, not to say impossible, in many cases to draw the line of demarcation between the probability of recovery and death. Its appearance, however, at an early age should always be viewed with distrust. Not less than any other symptom, does emaciation differ in degree and extent. Sometimes a stop appears, as it were, put to further growth, and the child of six or eight weeks is scarcely increased in size to what it was at three; even the hair of the scalp ceases to grow, or falls out, and partial baldness follows. Or again, the decline is less marked, but nevertheless perceptible. There may be no absolute loss of flesh, but the skin lacks the ruddy tint of health, is pearly white, and the muscles are deficient in tone. These changes, albeit they denote a departure from a natural state, are by no means so conclusive as to lead to an unfavourable prognosis.

In the present enquiry it has been assumed, that the infant has become infected with the syphilitic virus during intra-uterine life, and this transmission, there is good reason to suppose, may be effected, as regards the father, at conception, or a later period. What the exact limits may be in relation to the latter event, it is difficult to determine, but the longer the delay, the greater is the chance of protection to the foetus. The development of secondary, in contradistinction to tertiary syphilis, as, for example, psoriasis palmaris,

contracted a few months before marriage, and from which the parent has imperfectly recovered, is one of the more frequent causes of syphilis affecting the child. I have known the same result to occur to a foetus at a time when the father was suffering from syphilitic eczema, although an interval of nearly thirty years had elapsed since the accession of a primary sore. Tertiary syphilis, on the other hand, in my experience, seldom leads to congenital syphilis, or, at any rate, to its manifestation in early life. In the majority of instances, and this more especially applies to the milder forms of congenital syphilis, it is the father alone who communicates syphilis to his offspring, and that without producing, as a rule, any primary or secondary symptoms in the wife.

We must not infer from the presence afforded by a Diagnosis. red patch, with or without any secretion, a conclusion absolutely in favour of congenital syphilis. Sometimes, and particularly in fat children, whether at the groin or front of the neck, or wherever thick folds of skin are brought into close contact, a species of erythema is apt to be produced, notable for its colour ; or should there be any discharge, it is glairy, and often promoted by such remedies as ‘ fuller’s ’ earth, or it may arise from want of proper cleanliness ; yet, there is no failing in the general health, or any loss of flesh. Eczema may appear in the pubic as in other regions, but in the non-specific variety, it is, so to speak, a more scattered eruption, and lacks the bright or crimson hue of the syphilitic form. The latter is likewise prone to attack the flexures of the larger joints, as those of the elbow or the knee ; sometimes the surface thus affected is dry and smooth, secreting only at intervals, and varying in point of colour ; or it is pale

red, and traversed by numerous cracks, which expose the cutis, and render painful any attempt at extension. I had lately under treatment two instances of eczema in children ; in one it was strictly confined to the anus and its vicinity, and was caused by the presence of ascarides in the rectum ; in the other the pubes were affected together with the scalp and face, and in neither was any suspicion of syphilis attached. Not that it is always an easy matter to discriminate between the two. In congenital syphilis we have mainly, if not entirely, to rely, in most examples, on the symptoms as they come before us, irrespective of all other testimony ; any history which might tend to compromise the personal repute of the parents is withheld, or for many reasons it is unsought. Frequently are we met by the fact, which is indisputable, that the child in question is the only one of a numerous family, who has thus suffered, and I may quote the subjoined as an instance not at all uncommon, and distinguished by no apparent severity.

E. J., aged seven weeks, came under observation June 7 of last year, with syphilitic psoriasis covering the buttocks and thighs as far as the knees. The same existed likewise on the genitals, and the adjoining surface of the abdomen. He was the eighth child, and all the rest were healthy and well. The redness was noticed by the nurse at birth, and from that time it has continued to spread. No history of syphilis could be obtained. There was no complication, as coryza or ophthalmia, or any wasting of the muscles ; on the contrary, he seemed in excellent health generally. From its appearance, I had no doubt of the disease, and I may add that in six weeks he recovered entirely.

It may be said that such cases are not syphilitic, and in the absence of any direct proof with respect to the parents, they cannot be so regarded. This objection loses much of its force in instituting a comparison

between these and parallel cases, wherein syphilitic antecedents are established on the side of one or each parent; and secondly, in the rapidity with which they yield to mercurial treatment.

I now proceed to the consideration of certain results, which are sometimes noticed in the child, after apparent recovery from congenital syphilis. In the first category are included instances of a relapse, and this is the most frequent sequel of hereditary syphilis. The ordinary signs of the previous specific disease have yielded to treatment; they may have been in no way severe, and yet in a short while after seeming convalescence, a recurrence of the complaint takes place. It may be, that the same symptoms are exactly repeated, or a return is more decidedly pronounced by copper-coloured spots, attended by slight cuticular desquamation, or by the co-existence of tubercles. The latter are slightly red and smooth; they seldom exceed a rape-seed in size, and are commonly situated on the face.

In other cases, and in general after a longer interval, extending over six to eight weeks and more, an eruption of tubercles is seen on the site of the former affection, as the buttocks or adjacent parts of the thighs; sometimes the growth is confined to the verge of the anus, or a cluster surrounds this aperture. The swelling acquires after a time a greyish white colour, and is somewhat flattened; sooner or later, ulceration commences at the centre, and this stage may ensue at an early period, particularly if the growth be single and close to the anus. In common with all syphilitic ulcers in this locality, it is distinguished by the sinuous character of its margin, and disposition to extend in circumference rather than in depth. Prior to ulcer-

Condylomata.

ation, the attendant pain is inconsiderable; and even when it has occurred, little distress is evinced as a rule. I have now, July 1874, under treatment at the hospital, a child, in whom an ulcer of this kind extends from the scrotum to the coccyx, encircling the anus, and yet no symptom of pain is evinced.

In the second class are comprised cases of the following kind.

Convul-
sions.

It occasionally happens, that a train of some such symptoms as these is perceived, as the child is recovering from the effects of constitutional syphilis, and everything tends apparently to a favourable issue. The earliest sign of any change in the condition of the general health is an attack of so-called convulsions. There is frequent vomiting, but no diarrhoea. Another and more significant sign is that one side of the face is observed to be partially paralysed; the mouth is drawn down, and the pupils are irregular. The corresponding arm suffers from a like loss of power; it may be slightly colder, or there may be no decrease of temperature, but it rarely escapes the notice of the mother, that the child does not move the limb as before. Sometimes he screams when touched, and endeavours to scratch his head. Withal this, there is a peculiar listlessness about the little patient. Should the attack yield to treatment, the face does not readily recover itself, and the opposite arm is sometimes involved in a similar manner. Nor can we be surprised at this, when we consider that the mischief at the base of the brain may extend to the opposite hemisphere. Sometimes the disease is ushered in with a more decided expression of convulsions. The hands are drawn downwards, and seized apparently with spasm, which lasts for several seconds; and the attack

is repeated until it occurs nearly every hour. There may be no vomiting or diarrhœa, or any unusual heat, except on the head, and the child takes his food to the last. In one example, which came under my care at the hospital, and proved fatal in three weeks, complete blindness supervened on the eighth day. Again, as the occasional result of congenital syphilis, may be mentioned chronic hydrocephalus, the symptoms of which are too well known to be described. Frequently the head is bathed in perspiration, while the surface elsewhere is quite dry. The accession of such a symptom must be regarded as unfavourable, unless seen in a very early stage.

In congenital syphilis, mercury will prove of the greatest service. Some, while recognising its value, have nevertheless advised its exhibition to the mother, rather than to the infant at her breast, and so affect the latter at second hand, but the rapid improvement which distinguishes the direct method appears to me to decide conclusively in its favour; and, moreover, the necessity is spared of subjecting the parent to a course of mercury, although she may exhibit no symptom of syphilis. The case is altered when the mother is likewise suffering from the same disease, and in this event, the alternative may be adopted of treating her alone. Treatment.

As to the form of mercury best adapted to the young subject, the perchloride will be found a very eligible one, and in practice I prefer it to any other. Being of known definite strength, and not liable to decompose, the dose can be regulated with great exactness, while any tendency it may exhibit to gripe or purge can be generally corrected by the addition of a sedative, as the tincture of opium. The same cannot be

said of the ordinary 'grey' powder,¹ and especially of calomel, particularly to infants. Such at least are the results that have come under my own observation, although, in older children, I have known the grey powder alone productive of great benefit. It is, however, a remedy which I rarely use on account of its

¹ Wishing to ascertain the nature of the grey powder as commonly sold, I procured fourteen specimens of a drachm each from as many different shops—one half from the well-known or larger firms, and the remainder from those of lesser note. At the former, it was understood that the powder was made on the spot or laboratory attached, which, at the latter, was not the case, except in two instances. As my object was not so much a minute analysis, which should determine the precise amount of the oxides as their actual existence, and their comparison with each other in the various samples, I proceeded in the following way:—1st. By boiling in a test-tube with acetic acid and filtering. In the solution or filtrate were contained acetate of calcium, also mercurous and mercuric oxides dissolved in acetic acid. Then hydrochloric was added, and filtering again performed. The precipitate contained mercurous chloride (calomel), showing presence of mercurous oxide, while the solution was divided into two parts; to one was added sulphuretted hydrogen water, which gave a precipitate of mercuric sulphide, indicating mercuric oxide; and to the other, stannous chloride, forming a precipitate of metallic mercury, denoting mercuric oxide.

More striking still is the change, which the grey powder undergoes in hot climates, as in India, where the greater part or whole of the mercury rapidly oxidises. It also assumes, instead of the ordinary slate colour, a reddish or pink tinge. From the violent effects which small doses of it occasioned, the late Dr. Baines (Chemical Professor at the Grant College, Bombay), was requested by the Government to analyse a quantity, which had been prepared in their stores. His results did not differ greatly from those of Professor Redwood, except that on addition of the suboxide or even the protoxide, a proportion of the original mercury had disappeared by evaporation, owing to a more exalted temperature, and in some cases no metallic mercury remained. He adds, 'It is an unsafe and untrustworthy medicine in Europe; yet more is this the case in a tropical climate, and it might be well if its use in India at least were altogether discarded.'

varying strength, and consequent liability to occasion vomiting and griping. This I had repeatedly noticed without suspecting the true cause, depending, as Professor Redwood has explained, on the oxidation that the mercury undergoes, when subjected to extreme trituration, as by steam power, and subsequent exposure to light. Made according to the B. P., it is doubtless a safe agent, but the process of so preparing it is tedious, and the place of hand labour is generally supplied by machinery.

To an infant under four weeks, from five to eight minims of the liq. hydrargyri perchloridi may be ordered in a little water twice a day, and this quantity can be increased by one half or doubled, when the child is from two to three months old. If no diarrhœa be present, the mercury may be given simply diluted, but should this condition already exist or supervene, we must either try the effect of a narcotic, or abandon internal treatment, and trust to the outward application of mercury by inunction.¹ Children, as is well known, are very susceptible of opium, but I have never found half a minim for a dose of the tincture, or the liq. opii sed. added to the mercury, produce any injurious effect even at an early age. More reliable from its exact strength is the liquor morphiæ acetatis in a similar or less quantity; hyoscyamus and conium, in the form of tinctures, are of uncertain power. The preparations of opium, although

¹ In those cases in which mercury manifestly disagrees or is unsuitable, the chlorate of potash, as advocated by Mr. Dunn, may be resorted to with success. A mixture of some such form as this may be ordered:—A drachm of chlorate of potash to four ounces of water, with the addition of half a drachm of compound tincture of camphor and a like quantity of simple syrup: in doses of two teaspoonfuls each, twice or thrice a day.

given with a view to control the diarrhoea rather than exert a soporific effect, appear to have a favourable influence in allaying the irritation or pain, that the child so often experiences. There is one point to which I may allude, and that is to a green state of the motions, which is no unfrequent attendant upon congenital syphilis, even where no medicine has been exhibited. Its occurrence is, however, no bar to the internal use of mercury, and under its administration, an improvement is soon observed in the condition of the stools.

As a local remedy, the subchloride of mercury or calomel, mixed with plain or benzoated lard, answers extremely well. The amount of calomel employed will depend on the extent of the eruption and the child's age, and from ten grains to a scruple of the one to an ounce of the latter, may be said to express the limits of this difference. On the face, trunk, and extremities, the ointment should be smeared once a day, but to the verge of the anus after each evacuation, care being taken, in the latter case, that the part be washed with tepid water, and dried before its application. The greatest cleanliness is essential, when the genitals or adjacent surfaces are attacked, as the urine if allowed to remain soaked in the napkin will soon excoriate the skin, and aggravate the patient's sufferings. The same rule on the score of cleanliness is needed, if the child 'snuffles,' or is suffering from otorrhoea. A little warm water to which Condyl's fluid may be added, in the proportion of a tablespoonful to a pint; or black-wash will, with the aid of a glass syringe, clear the passage and remove any disagreeable effluvium therefrom.

Another agent of which I can speak from experience is the yellow precipitate, or yellow oxide of

mercury, made into an ointment with benzoated lard in the proportion of four grains to an ounce; it is of great service, and appears, like calomel, less irritating to the skin than the white or red precipitate. This quality is due to its being amorphous, and in the highest state of division. Professor Ragenstachem and Mr. Squire have also highly recommended it.

A more elegant preparation than lard, and in some respects superior to it, is a compound of glycerine and starch, known as plasma or the glycerine of starch. It mixes well with calomel, and has the advantage over fatty or oily unguents in being readily washed off the skin, and not staining the clothes. It is a semi-transparent jelly-like substance, cleanly in its application, and particularly fitted, from its bland properties, for any syphilitic eruption about the genitals, where the surface is often very tender.

The length of time over which the treatment should extend, will necessarily vary with the requirements of each case. It ought not to be discontinued, lessening of course the quantity, until three or more weeks have elapsed, when the last signs of a reddened skin have quite passed away. Simple as this precaution may appear to be, it is one often unheeded by the parents, and hence the frequency of a relapse.

Of little less importance than medicine to an in- Diet,
fant, the subject of congenital syphilis, is diet, and on this head a few remarks will not be deemed out of place. Should the child be suckling, and the mother have an abundance of milk, the latter will constitute the best, as well as the most natural, food; and to the age of 4-5 months, no other nutriment is needed. At or about this period, a preliminary attempt is to be

made towards weaning; the child may now be allowed in part milk from the cow, thickened with Robb's biscuits or bread, and in two or three months later it should be weaned entirely. In many cases it will happen, and an inquiry should always be made, that the mother's milk is wanting in quality, or quantity, or in both; or that, owing to the occurrence of sores in the mouth, the infant is incapacitated from taking the breast. In any event of this kind, cow's milk must be supplied, diluted if necessary, and slightly sweetened, and no other sustenance given to the age of four months, when the same plan may be pursued as with a suckling child. In some cases, where a stimulant is necessary, a few drops of brandy may be added to the milk every three or four hours, and it has the advantage of being less likely to be rejected by the stomach. Infantile congenital syphilis, it should be remembered, does not permit the alternative of a 'wet' nurse, without exposing the latter to considerable hazard, and in no case should the question have the previous sanction of medical authority. The immunity afforded to the mother, when suckling her child with congenital syphilis, applies to herself alone, as was remarked many years ago by Colles, of Dublin; and to the correctness of this statement, confirmed as it is by others, I can bear abundant proof.

A word may be added on the necessity of fresh air, as far as it can be obtained in these instances of congenital syphilis. In the wealthier classes of society, advice on this topic is rarely required, but it is otherwise in many of the very poor, as is only too well known. Not only has the child to contend with the heritage of an hereditary complaint, but this is too often aggravated by a close or unwholesome atmosphere, besides

defective nutrition. We cannot be surprised, with a want of means and appliances, that in this grade of life, congenital syphilis so frequently plays a fatal part in infancy, or that when superadded at a later age, the rate of mortality is largely increased from other sources.

CHAPTER XXIII.

REMARKS ON FEIGNED OR HYSTERICAL DISEASES OF
THE SKIN.¹

THIS subject has lately been most forcibly brought to my recollection, not only by an instance, now under my care, of simulated lupoid ulceration of the face in an hysterical young woman to be afterwards mentioned, but by a case nearly identical, save as regards a more fortunate result, with that of the 'Welsh fasting girl,' which occurred some years ago, when I was the resident medical officer of the Birmingham General Hospital. This patient, A. V., who was a remarkably good-looking delicate girl, between nineteen and twenty years of age, for six months and upwards practised the most artful dissimulations upon the entire hospital staff, as to the means adopted for maintaining her *embonpoint*, and apparently taking no food, though abundance of provisions, secretly weighed, were placed before her; at the same time the patient resisted feeding with the stomach-tube, and all other remedies prescribed for her fits and sickness, though there was little doubt that she surreptitiously used a tartar-emetic ointment recom-

¹ By James Startin, Esq., F.R.C.S., Senior Surgeon to the Hospital for Diseases of the Skin, &c. Reprinted from the *Medical Association Journal*, 1871.

mended to produce an artificial eruption upon the epigastric region, for relieving the sickness, and swallowed a portion of the same ointment to create the sickness complained of. After perseveringly watching at irregular intervals, mostly during the night, I had the good fortune to discover this patient's deceit, and found that the main supply of food was derived from the broken victuals collected from the cupboards of the other patients in the ward, though there was a suspected collusion with one of them, who was the chief recipient of the rejected hospital delicacies, of which there was a good store ordered by the late Dr. Booth, who had the care of A. V.

The ten cases which I will now briefly recite are, for the most part, selected from notes taken several years ago. In my public and private practice during the last thirty years, wherein perhaps one hundred and fifty thousand instances of skin-disease have been recorded, I have met with numerous examples of so-called 'hysterical diseases of the skin.' I therefore shall make no apology for referring to the notes of a few of these cases, written when more leisure and aptitude—the latter never very great—fell to my share than has since obtained. I trust that the curiosity, if not the interest, attached to these instances, especially at this present moment of the Welsh exemplification, may find a brief favour, and palliate any shortcomings in their recital.

Hysteria has been termed an 'essentially imitative disease'; and, although the morbid condition of the system from which it originates is chiefly confined to the softer sex—the result, probably, of reflex action connected with the organs of reproduction—yet there are rare instances of similar feignings in the male,

though these, for the most part, are examples of malingering.

The maladies of the skin which, in my experience, are most frequently simulated, are erythema, eczema, pemphigus, ulcerations, morbid growths or discolorations, the 'Dyschromatoderma' of an eminent dermatologist, alopecia, and changes in the cutaneous secretions.

Simulated
eczema.

The first instance, which I shall cite, is an example of simulated eczema of the eyelids, in a married woman between thirty and forty years of age, the wife of a merchant's clerk in Austin Friars, who had been accustomed to move and find employment in stations superior to that now occupied. This patient, who was childless, but had adopted a little girl whom she passed as her own, was troubled with various hysterical ailments, amongst which was the not uncommon one of retention of urine, attended with attacks of cough and sickness—such attacks not being amenable to any treatment by myself and others, beyond the apparent relief following the passing of the catheter. On one occasion, in an interval of my attending her, the patient, after a violent fit of hysterical cough, had ecchymosis of both conjunctivæ and of one eyelid; this she chose to treat by washing with lime-water, of course producing much irritation; and, to relieve the latter, she obtained a lotion from a druggist, which she persisted in using, owing to its asserted cooling qualities (?). The effect of this lotion was to cause an eczematous affection of both eyelids, for which she again sought my advice. The usual appliances were recommended, and internal means, but without avail. The patient stated that the lotion from the druggist was

‘all in all.’ I therefore called upon the latter, and found that my patient, at her express desire, had been supplied with a hair-wash, which contained ammonia and tincture of cantharides; hence the *eczema palpebrarum*. I got little credit from my patient or her friends, by exposing her proceeding; but the hair-wash was discontinued, and a cure accomplished by a lead-lotion. I was less successful with the retention of urine, for which she became treated by the late Dr. Conquest. This patient, whilst apparently blinded by the eczema, performed numerous hysterical acts, such as cutting out figures, likenesses, &c., on black paper, in a remarkably clever manner, which, as she pretended she could not see, constituted a true ‘exaltation nerveuse.’

The second case was simulated erythema marginatum in a young woman aged twenty-one, employed in a draper’s shop, in which were several good-looking young men. I found that the erythema, situated in different regions, was occasioned by the skilful use of flour of mustard, applied in the wet state by means of a large camel-hair brush, so as to produce the map-like forms indicative of this form of erythema. I was indebted for the accidental discovery of this agent to a sister of the patient, who told me, with seeming concern, that nothing appeared to do her sister so much good as a mustard emetic, and that she was obliged to take one twice or thrice a week; but that the eruption was always worse the next day.

Simulated
erythema
marginatum.

The third case which I will cite is a very curious one, of discoloration of the skin—‘dyschromatoderma’—inasmuch as it was well known to most of the eminent physicians in Brighton and London; the young lady residing in Sussex, and being of a family of some

‘Dyschromatoderma.’

social importance. The case was considered an example of melanosis of the skin, a case of pityriasis nigricans, an instance of congenital syphilis, &c. When the young lady was brought to me by Mr. M——, I found the skin on the face, the temples, and sundry parts of the front of the body, covered with patches of a dark brown or black secretion, which could not be removed with water or spirit, or such an amount of friction as could be applied to it, owing to the tenderness of the surface, according to the patient's account. In short, a marked state of hyperæmia cutis existed; so that, when I took a piece of flannel to rub the part with a mild preparation of soap-suds, the procedure could not be endured. However, the young lady said she could bear the use of a camel-hair brush, which she thought I had dipped in water, though in this instance I was the deceiver, as pure ether was substituted; when I found, not to my surprise, but to that of my patient, that the ether washed off the black pigment, leaving the skin *fair as a lily*—the compound staining the skin being candle-black and grease. My attention was now drawn to the thighs, on which were sundry ecchymosed patches; these, I perceived, were produced by so many dexterous pinches with the young lady's thumb and index finger. The patient did not resent, as is usually the case, my exposure of the simulation, which was done in as delicate a manner as I could contrive—viz., by saying nothing, but holding a hand-glass before her face, as soon as the parts affected had been cleaned by the ether, which, after a moment of astonishment, caused, on her part, a fit of hysterical laughter, as she professed to think herself cured. My friend, Mr. M——, wrote to me some time

afterwards to tell me that the 'black girl' had also been cured of her hysteria, and that she continued 'fair as a lily;' at the same time enclosing (but not, of course, for publication) a bundle of prescriptions, letters, &c., of the various eminent authorities whom she had consulted.

The fourth case which I will mention is more striking in its peculiarities than the preceding; it was that of a young lady, of good position, living in the centre of the coal and iron-stone district of the midland counties. She brought to me a letter from her medical attendant, who mentioned 'that the disease was of a most anomalous nature, and that it had baffled all the treatment that had been brought against it, both by himself and numerous others, specialists as well as general practitioners,' stating, besides, 'that since I have known Miss ——, she has been the subject of hysteria in a variety of ways; at one time, assuming the form of a loud barking cough, existing for months; at another, diarrhoea, which nothing could relieve; then, again, hysterical aphonia, which lasted, I think, about six months, &c.' When the young lady presented herself, with her nurse, to my observation, I found an anæmic young woman, about 22 years of age, whose face and front of her neck were nearly covered with a thick black incrustation, which was affirmed, both by the patient and nurse, to be coagulated blood, that had oozed from numerous minute points beneath the incrustation, and had congealed into the form and substance which her present appearance presented. Her medical man had also written to me, 'I have carefully removed a portion of this incrustation from the face, it then not being so thick as the last

Simulated
black in-
crustation
of skin.

two months, and, with a sponge and warm water, got down to the surface, and distinctly saw, *myself*, an oozing of blood take place from several small points, and this continued for some hours, in spite of applications which were then made to prevent the incrustation forming again; this washing was also practised by Mr. —, who had been previously consulted.' Such being the statement of the young lady's case, I found that the appearances verified, as far as the eye was concerned, all that had been said about it; yet, to the practised observation of any one familiar with cutaneous diseases, the sham was at once evident; but how to convince the patient and her attendant, by the removal of the incrustation, that her sham was discovered? This, I confess, appeared to me, at first sight, no easy matter, as the same tenderness of surface manifested in the former case, was also a conspicuous symptom in this; to gain time, therefore, as the patient was prepared to stay a while under my observation, I prescribed an acid chalybeate aperient, and a lotion composed of equal parts of glycerine and rose-water, to be kept constantly applied warm, by means of wetted linen, to all affected parts. On my patient's visit the next day, I found that the glycerine lotion had softened, and partially brought off, the incrustations in many places, but that a portion of the crust had evidently been replaced; she moreover said, that the lotion did not agree, &c., and that it had been discontinued through the night. I therefore had recourse to another application, which, like glycerine, I have had the pleasure of first introducing to my medical *confrères*, and which, like the former agent, has been admitted into the *British Pharmacopœia*; I allude to flexile or elastic collo-

dion.¹ With this, by means of a large camel-hair brush, I painted over the whole of the patient's incrustations, so as to exclude the air and prevent evaporation, which the elastic collodion effectually accomplishes, as it dries rapidly upon a moist surface; lest, however, any portion should require a second application, Miss —— was furnished with a second supply of collodion: this precaution proved needless, for, the next day, I found that, although there had been an addition to the incrustation over some parts of the elastic varnish, the mass beneath had become completely softened, owing to the prevention of evaporation from the substance itself, as also to that of the natural perspiration of the cutaneous surface. With very little effort, I therefore removed from the face and neck the entire mass, which, together, weighed upwards of three quarters of a pound. This mass is still in my possession, and consists not of coagulated blood, as was supposed, but of softened extract of liquorice, minute hairs and cutaneous scales, as I informed myself of by the smell and general appearance, and Mr. T. Taylor, the chemist, by special analysis. Thus ended the case, which, however, was most strenuously denied and resented by the patient and her nurse, whom I afterwards believed to have been her accomplice, and also by her friends, and, I regret to add, by her medical attendant, who, in a letter subsequently written, professed to believe 'that, if the liquorice had been put on (?), it had been done, not to simulate or deceive, but to "staunch the bleeding."' "

¹ See papers on Glycerine in the *Medical Times* of 1845, 1846, and 1850; and on Collodion and its Improvement, 'Elastic Collodion,' *Medical Times*, 1848, vol. xix.

Simulated
ulcer.

The fifth case to be mentioned is that of a servant girl, who suffered from an obstinate ulcer on her left arm, in the situation in which an issue was generally placed, when these emunctories formed therapeutic agents more frequently used than at the present time. As the ulcer would not heal, I fixed the arm to the side, by means of a cushion in the arm-pit, and the ordinary bandage for fractured clavicle. In the short space of less than three weeks, the wound healed by simple dressings, and I lost sight of the case.

Simulated
conjuncti-
vitis.

In the same establishment, Messrs. Maudsley's, the engineers, where this patient was employed, another instance of simulated disease originated, illustrating what has often been observed, the seeming contagiousness of imitative complaints. This young lady's maid, otherwise in good health, was troubled with a most obstinate inflammation of the eyes, with great intolerance of light, that resisted all means employed for its cure. She was sent to me on the credit of her companion's cure. I found some degree of inflammation of the conjunctiva lining the eye-lids, produced probably by some agent of the patient's contriving. After a short ineffectual trial of the ordinary remedies, I advised her to seek the services of the Eye Infirmary, where she attended some time, until the sham was worn out.

Simulated
discolora-
tion of
skin.

The sixth case occurred to me a few years ago, and was that of a young hysterical female in the middle ranks of life, who spoiled a large amount of linen in consequence of profuse perspiration, of a dark or black colour; this I found to be a solution of soot in milk or tea, which opinion was confirmed by my friend, Mr. Jonathan Hutchinson, whom I asked to put a portion of the linen under the microscope.

The seventh case to be mentioned is that of a chlorotic attenuated young girl of seventeen, who, for some chest-affection, real or imaginary, had been an out-patient of the Consumption Hospital, where she had been supplied with a blistering liquid, to produce small flying vesications on the chest. Whilst under this treatment, a series of what were termed whitlows appeared in succession on the fingers of both hands, and as soon as one was well another finger became affected, thus producing a case of artificial pompholyx benignus, on which account she was brought to the Blackfriars Skin Hospital. When she presented herself, there were four fingers affected, three on the left hand and one on the middle finger of the right. I punctured these bullæ, as is my usual practice, and applied a piece of litmus paper, when the re-action, contrary to what is almost constantly the case, was vividly acid; hence I suspected simulation was employed, which the history of the blistering application, probably acetum lyttæ, before-mentioned, verified. It is probable that, in the first instance, the blistering was accidental; and, for the hysterical *penchant* for creating pity and interest in the girl's surroundings, it was continued until exposed.

Simulated
pompho-
lyx.

The eighth case was a form of alopecia in a little girl between eleven and twelve years of age, the daughter of highly respectable parents of the Hebrew persuasion. In this young lady, the hair in the front of the head 'would not grow': after using various pomatums, washes, &c., it would sometimes attain half an inch to an inch in length, when it would, as stated, suddenly fall or drop off, leaving little more than an irregular crop of stumps. I at once told the medical

Simulated
alopecia.

man who kindly called me to see the case, that as I knew of no disease having these characteristics, the scalp being quite sound and healthy, I suspected some trick or morbid infatuation, but that I would not give a decided opinion until I had put some of the hairs, or rather the stumps of the hairs which had fallen, or had been cut the night before my visit, under the microscope. The half-inch lens of this instrument revealed the mystery; that the hair had been cut, probably with a penknife or razor, the incisions being too smooth for scissors, was as plainly evident as the marks of a knife on a divided piece of wood.

Simulated
ulcers.

A ninth case is that of a girl employed in a laquer-
ing establishment, who presented herself with an
anomalous ulcerative eruption on one fore-arm: the
ulcers appeared in a clustered circular form, chiefly as
large or a little larger than a sixpence, and they were
deeply concave, though granulating freely from their
base. Some of these ulcers had healed, and presented
raised cicatrices like those following burns, or resembling
'keloid.' No previous history could be obtained of the
case, which had been about a year in duration, beyond
the fact that the ailment had been slow in its progress;
and, as one part healed, others appeared, so as to
necessitate the girl's discontinuance of her employment,
and oblige her to live upon the earnings of a lone
widowed mother. On witnessing this eruption, and
observing the discontented hysterical aspect of the girl,
I felt convinced some caustic agent had been used; and
when I remembered that nitric acid was copiously em-
ployed by laquerers, I was convinced that this liquid
had served the patient's purpose. After confining the
arm with strapping until the sores healed, I extorted

a reluctant confession that my surmise was correct. I believe there is, or was, a model of a similar case to the foregoing amongst the preparations of cutaneous disease at Guy's Hospital Museum.

The tenth and last case, which I shall bring forward is that alluded to at the commencement of this paper; viz., simulated lupoid ulceration of the face. This young lady, a Miss ——, about 27 or 28 years of age, residing in the suburbs, has been my patient, on and off, for two years, and has baffled all my efforts to obtain a cure. Sometimes, after the simplest dressings, the sores will heal and remain sound for a week or two; at other times the more powerful caustics—the acid nitrate of mercury, for example—have been required to induce the healing process. The patient confesses that, in most instances, she gives rise to those sores by picking the affected parts. She states ‘that a small lump is felt beneath the skin, which she must have out, as the itching is quite intolerable.’ A sore forms in these places, and leaves a more or less unsightly scar, which it takes some weeks to heal, only to be followed by other picking, ulcers, and unsightly scars, which I have no doubt have been continued and maintained by some expedient the fertile imagination of Miss —— has suggested. This young lady has for years been suffering from hæmorrhoids in an aggravated form; she also is afflicted with profuse leucorrhœa. I have attended to these symptoms as the probable cause of the facial complaint. The acid nitrate of mercury has been freely applied to the piles, and potent chloride of zinc injections for the leucorrhœa; but, although both these ailments have been mitigated, if not cured, by these means, yet no change in the facial ulceration can be

Simulated
lupoid
ulceration.

traced to their disappearance. One extraordinary fact, however, has lately come to my knowledge; viz., that during my prolonged illness, Miss ——'s face has continued healed; but, since my return to my avocations, the old malady has again manifested itself in as obstinate a form as ever—hence I have included the case amongst those cited of feigned or hysterical diseases of the skin.

I am aware that in systems of medicine and in books on female diseases, hysterical imitative disorders find a conspicuous place. A collection of such instances was introduced by my friend Dr. W. O. Priestley, in some introductory lectures on the diseases of women and children, delivered at the Middlesex Hospital, which he kindly forwarded to me; but, with the exception of one case communicated to Dr. Priestley by Mr. Page of Carlisle, of an unhealthy ulcer on the upper part of the arm closely resembling No. 5 of this series, I am not aware that amongst the various feignings of hysteria, 'hysterical diseases of the skin' have hitherto found a place. The ample experience of the Blackfriars Skin Hospital, extending to nearly thirty years, has however convinced me that such cases do and will exist, and ought not, therefore, to be ignored.

CHAPTER XXIV.

DISEASES OF THE SKIN FOLLOWING VACCINATION.

SEVERAL years have now passed since my attention was first directed to the influence of vaccination in the development of certain diseases of the skin, and I have had no reason to modify the opinion I then expressed, that instances of this kind were of occurrence, by no means infrequent as regards the non-syphilitic, but rare with respect to the syphilitic class; in other words, that vaccination occasionally gave rise to the more common forms of cutaneous disease, and sometimes led to more serious results in communicating the poison of syphilis, and the consequent outbreak of a specific eruption.

In the present chapter I have transcribed the greater part of a paper¹ by my late colleague, Mr. Startin, and I do so the more readily, as the cases to which he has referred came at the same time under my own observation.

Spurious or impure vaccination was known and pointed out by Dr. Jenner, as cited by Willan and Bateman. In Mr. Bateman's *Synopsis of Cutaneous Disease* (7th edit., page 312), three varieties of irregular vaccination have been noticed, viz., 'pustules, ulcerations, and vesicles of an irregular form.' These were referred both by Dr. Jenner, and by Willan and Bateman, to the accidental

¹ This paper, like the preceding, appeared at the same time in the columns of the *Medical Association Journal*.

presence of cutaneous eruptions in the vaccinifer; for example, 'herpes, psoriasis, impetigo, lichen, and most frequently certain varieties of porrigo, have been present.' Dr. Willan also thinks that the 'itch and porrigo likewise have the same influence.' Baron Alibert, as also stated by Bateman, page 227, mentions 'the case of an infant who was inoculated with crusta lactea and took it.' This of course was the contagious porrigo of infants. There is, however, no mention of syphilitic infection in any of these authors, although there appears some supposition of it.

About six weeks ago I received a visit from a gentleman residing at Wimbledon, who showed me some pustules on his arm and body, which he feared arose from syphilitic vaccination. He stated that several members of his family and others in the village were also suffering in the same way, and he begged me to proceed forthwith to Wimbledon to meet Mr. —, who kindly informed me that 'two or three weeks ago, with lymph procured from London, he vaccinated several of the family to which I was called, and from them some others in the neighbourhood; and that a pustular eruption had appeared on several of the vaccinated, which had caused considerable alarm.' The patients whom I saw in this family consisted of the gentleman and his wife, a daughter about 11 or 12 years of age, and the governess. In every case the appearances were similar—flat irregular-shaped pustules not only on the vaccinated points, but on different parts of the body, and in some places where dressings had been used, appearances of ulceration or suppuration, or thick and somewhat raised scabs, were manifest. In the little girl, some accidental febrile excitement was present, but in the other cases, excepting needless alarm, the external symptoms alone claimed attention.

A nearly identical case in two young ladies, aged 8 and 11, residing at Kilburn, I saw on May 9 with Mr. Nayler. Pustules, instead of the vesicles, appeared on the ninth or tenth day, attended by other pustules on the vaccinated arms, and also on the face and fingers of the elder young lady, who had likewise an enlarged gland on the axilla and neck. These children were vaccinated by their usual medical man, who desires to withhold his name.

It should be observed that the above examples in each instance were secondary vaccinations, as is the last now detailed, occurring on the 9th of the current month. Mr. H. B., aged 20, residing at Woodford, applied to me, suffering severely from pustules and boils on many parts of his arms and body, which had made their appearance a few days after vaccination, performed six weeks previously. These eruptions had resisted the ordinary treatment, and seemed to increase rather than diminish, preventing his return

to college, and indeed his enjoyment of life, owing to the supposition that it was an impure disease.

All these cases yielded in short periods to the external use of parasiticides, and to tonics, consisting of syrup of iodide of iron in combination with aperients and vegetable bitters.

The last two cases which I have to report, though fortunately the most rare, are also the most important, as they are undoubted instances of vaccino-syphilis, in all probability communicated from the same vaccinifer. These two patients were sent or rather brought to me at an interval of eighteen days by two surgeons in a partnership firm, enjoying an extensive local and country practice. In these cases, as in the former, I am precluded from mentioning names.

Mr. F., a gentleman, unmarried, aged 46, who, until the last month, when he was vaccinated for the second time, never having contracted syphilis or gonorrhœa, came to Savile Row, May 4, 1871, with a message from his surgeon, who could not accompany him on that day, and was seen by myself and Mr. Nayler seven weeks after vaccination. A severe tubercular specific eruption covered very generally and closely his entire body from the crown of his head to the palms of his hands and soles of his feet; he had also raised tubercular spots on the sites of the vaccination. Mr. F. stated that he felt very unwell the day after his vaccination with general *malaise*, and pains in his limbs; on the third day these symptoms increased, and the punctures became painful; and as he was no better on the fourth day, he took a warm bath, and, the arm being inflamed and painful, he washed off the vaccination in the bath. He continued, however, to get worse, and the eruption increased from day to day, until it presented the state described. He had no sore throat, nor were the glands in the axilla and elsewhere enlarged. His pulse was quick, and he was feverish and miserable in mind and body. The treatment consisted of the internal administration, thrice a day, of the iodides and bromides of potash and mercury, and the inunction night and morning of a mild mercurial ointment, containing one grain of levigated white precipitate, and five grains of strong mercurial ointment to each drachm of scented lard. The diet was carefully regulated, and the treatment energetically carried out by the patient for eight days, until May 12th, when I received Mr. F.'s second visit. He reported that all the symptoms had been gradually waning; the gums were becoming tender; otherwise Mr. F.'s condition was in every way improved, and a further perseverance recommended.

He afterwards made a third visit, attended by his surgeon, Mr. C. On consultation, we suggested that as pyæmia had com-

menced, Mr. F. should diminish the use of mercury, but in other respects proceed as before, as convalescence had evidently set in. On May 24, a fourth visit from our patient occurred, when further amendment was manifest, and the mercurials were all but discontinued, vegetable bitters and liquid extract of sarsaparilla being substituted. By passing the hand over any portion of the eruption at this time, it was found that all tubercular manifestations had disappeared, the stains only of the eruption remaining, so that the patient may be considered well.

Mr. H., the partner of Mr. C., brought a second case of vaccinosyphilis in a patient, who had probably been vaccinated from the same vaccinifer as Mr. F.

Miss N., aged 11, the daughter of healthy parents, was vaccinated some weeks ago for the second time. The vesicles ran an irregular course; there was much swelling and inflammation of the arm, and a febrile state of the system. A pustular eruption appeared on the face, and pustular ophthalmia with considerable conjunctivitis, but not iritis. There were also tonsillitis and swelling of the parotid and submaxillary glands, and upon the arm vaccinated some tubercular spots and copper-coloured areolæ. These symptoms continued with occasional variations, until my consultation with Mr. H. As the case was referrible to the same origin as that of Mr. F., a modification of the same treatment, adapted to the age of the young lady, was employed in addition to the local application of iodine to the enlarged glands, and a solution of nitrate of silver (one grain to the ounce of distilled water) to the pustular ophthalmia, with what result remains to be proved.

With regard to imperfect or effete vaccination, but few words need be added, as these cases must have occurred to everyone, both in primary and secondary vaccination, from the vaccination not taking; and the occurrence has been amply commented upon by Dr. Jenner himself (*Inquiry into the Causes and Effects of the Variolæ Vaccinæ*); by Dr. Willan (*Treatise on Vaccination*); by Dr. Bateman (*Synopsis of Cutaneous Diseases*); by Dr. Plumbe (*The Value of Vaccination*); and by several other authors. A single case will therefore be cited. Within the last month a popular member of Parliament, representing one of the most important Metropolitan boroughs, consulted me on his case of imperfect or effete vaccination by one of his medical constituents a few weeks previously. Mr. T. was not in robust health, owing to the nightly fatigue which his Parliamentary duties entailed upon him; consequently, the punctures inflamed and suppurated, the inflammation extending to the upper part of the arm and the glands beneath; the punctures then assumed the appear-

ance of boils on an irregularly shaped and extending base, and were very painful, and interfered with the patient's rest and comfort. As Mr. T. had been prescribed tonics and alteratives by his surgeon, I did not alter the internal treatment, but applied a piece of perforated opium plaster to the diseased spots, and directed the parts exposed through the openings in the plaster to be smeared with weak red precipitate ointment, and a fold of linen wetted with weak spirit or carbolic acid lotion, to be applied once or twice a day, and retained with a bandage. It can scarcely be necessary to remark after what has been stated, that these accidents can be, and indeed are, very constantly avoided by strict attention to the directions inculcated by the illustrious Jenner and his followers, down to the present time, and which this is not the time or place to recapitulate. I would therefore conclude these remarks by suggesting a modification of a recommendation of Mr. Bryce (*Practical Observations on the Inoculation of Cow-pox*); viz., the 'test of a double inoculation at the interval of five or six days,' when, should the vaccine vesicle run an abnormal or irregular course after primary vaccination, the irregular vesicle should be destroyed by means of carbolic acid and a camel's hair brush, and a new vaccination substituted. By this plan there would be secured to the community the inestimable blessings of which cavillers would deprive them, in consequence of an accidental faulty carrying out of Jenner's discovery.

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